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Water Core in Apples

EFFECT ON KEEPING QUALITY.

H. K. Kemp, B.Ag.Sc.Hons., and J. A. Beare, B.Ag.Sc., Research Officers, South Australian Department of Agriculture.

THE DISORDER, late Water Core, or Glassy Core of the Apple, while only of sporadic appearance in South Australia, in some seasons affects a considerable proportion of the crop of some late varieties. Usually, the Apple appears little damaged except for the water soaking of the flesh.

There has been much controversy as to the keeping quality of this fruit as compared with normal fruit. During the 1937-1938 Apple season, when this condition was very commonly encountered in late varieties, particularly **Rokewood**, a preliminary storage trial was laid down with the object of determining whether this fruit was fit for storage and for export overseas.

Two experiments were carried out. In the first, involving 36 cases of fruit, the Apples were stored unsorted as received from the garden. In the second, in which only a few cases were involved, the Apples were sorted into water core affected, and normal fruit, before storage.

Recommendations.

Until further experimental work can be carried out, Apples heavily affected with Late Water Core must be regarded as unsuitable for export or refrigerated storage.

Although the fruit, when removed from store, may appear to be in excellent condition, there is danger of considerable development of internal breakdown during the marketing and consumption period. This development may be serious. The percentages of breakdown encountered in these experiments correspond to 15-20 Apples in the case, which become soft and rotten during a period which corresponds to the bare average time between the unloading of Australian Apples in the United Kingdom and the opening of the cases by the retailer.

Apples affected with Water Core can, however, be held in common store, when the disorder can be expected to disappear in the course of a few weeks.

In this work, Rokewoods held up excellently for over two months in common store, although initially badly affected with water core. Nevertheless, it would be probably advisable to move this fruit into the market as soon as possible, especially if poorer keeping varieties are affected.

Summary.

(1) Two experiments were carried out on Rokewood Apples affected with Late Water Core, the first with unsorted fruit, the second with fruit graded for Water Core over strong white light.

(2) Water Core disappeared in store, but much more rapidly in common store than in 32 deg. F. storage.

(3) In common store, fruit initially badly affected with Water Core appeared to keep satisfactorily.

(4) Under 32 deg. F. storage, the fruit left the store in apparently excellent condition, but during three weeks post store holding developed up to 12 per cent., of severe internal breakdown.

(5) Apples affected with the Late Water Core cannot, therefore, be recommended for refrigerated storage or export.—"South Australian Journal Agriculture."

FERTILISER SUBSIDY APPLICATIONS.

Under Commonwealth legislation, a subsidy of 10/- per ton, to a maximum of 10 tons, is payable to primary producers who used fertiliser during the twelve months ended June 30, 1939, in the production of priary produce other than wheat.

A subsidy at the same rate and subject to similar limitation is payable to approved organisations which supplied fertiliser without charge to primary producers, either for experimental purposes or as a measure of relief in cases of distress.

Application for the subsidy must be lodged with the Secretary, Department of Commerce, on or before January 31, 1940. Forms on which application should be made by primary producers are available at post offices or may be obtained on application to the Department of Commerce at any of the following addresses:—Victoria: 419 Collins-street, Melbourne. New South Wales: Commonwealth Bank Buildings, Pitt-street, Sydney. Queensland: Commonwealth Offices, Brisbane. South Australia: 29 North-parade, Port Adelaide. West Australia: Customs House, Fremantle. Tasmania: Customs House, Hobart. A.C.T. and Northern Territory: No. 1 Secretariat, Canberra.

BLUESTONE PAINT.

Cut surfaces on the limbs of trees —ornamental or fruit—provide a ready avenue of entrance for wood-rotting fungi. Consequently the use of protective dressings to those surfaces exposed through reworking or heavy pruning, is an important practice in tree management, states the N.S.W. Dept. of Agriculture.

One of the most useful dressings in this connection is bluestone paint, sometimes called Bordeaux paint. Actually this is simply the well-known Bordeaux mixture, but prepared with such a small quantity of water that a paint is produced.

The formula is—

Copper sulphate	1½ lb.
Lime	1 lb.
Water	2 gal.

The copper sulphate is dissolved in approximately 1 gallon of water, the lime is broken down with the remainder of the water and is then poured into the bluestone solution to form the paint.

Citrus Black Spot is prevalent in some N.S.W. Citrus groves. Particulars are given in this issue of the Bordeaux and oil spray programmes recommended.

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War Cannot be Won Without Fruit

Important Statement by British Physician

APPLES ARE ABSOLUTELY NECESSARY FOR THE ALLIED FIGHTING FORCES.

In the "Fruit World" of July 10, 1918, an important statement on the value of fruit was published.

Much has been learned regarding fruit and health since 1918. The value of fruit is now universally recognised by doctors, dentists and dietitians.

Hereunder we repeat in full the article published in 1918. — Ed. "F.W."]

(Reprinted from "The Fruit World" of July, 1918.)

THAT THE SUPPLY OF FRUIT —and especially Apples—will be a deciding factor in the war is a statement authoritatively made by an eminent British physician, Dr. Josiah Oldfield, of London, in his essay on "Fruit and Its Effect on the War."

We quote freely from this essay, as the theme is of paramount importance. Dr. Oldfield says—

"In the early weeks of the war I gave an interview to one of the London dailies, and ventured to prophesy that the end of the contest would be influenced largely by dietary problems, and in these problems I did not consider that the question of protein and scale calorific values for muscular substance would be of so much importance as those of foods which supply nerve nutrition, i.e., fats and salines. It is very difficult to deprive any besieged country—or even any besieged city—of all sources of muscular nourishment so long as any other cellulose remains to be transformed by chemical agencies into a more digestible form of carbohydrate.

"The difficulty of Germany as a beleaguered country was therefore not really either meat, or cereals, or potatoes, but fats and fruits and salads. The joining up of Turkey threw my prophecy out of gear as to time, because it opened up the great stores of oil and figs and other fruits of Asia Minor. This source is slowly failing, and to-day, in spite of a complete calorific dietary, the people of Germany are beginning to develop the disease of mal nerve nutrition. There are beginning in Germany already grave manifestations of the basic origin of many diseases. The latest is a widespread oedema in the legs and feet and face. This will steadily get worse and worse as another Winter comes on unless fresh fruit, and salads and seed oils, can be introduced largely into Germany.

"I have dealt at length with Germany and her fate, to emphasise the great importance of avoiding a similar catastrophe for England. English stamina, courage, endurance and heart for the war depend on complete nerve nutrition. Now for this the calorific values of wheat, or beans, or beef, afford no criterion. The danger is that laboratory scientists will measure the comparative importance of cargoes by calorific values, and will on this ground tend to debar juicy fruits as being very light cargo compared with legumes or cereals.

"Every effort should be exercised to prevent this, or else, when the mischief is done, there will be a panic importation of anti-scorbutic fruits. I note that a small number of ships are still allowed to run to the West Indies for Bananas, and this is excellent, but weight for weight and bulk for bulk, the **most important fruit to be imported during the Winter and early Spring of 1918 is Apples.** Were I food controller in Germany, and allowed the choice of free import of one article of food from November to April, I should select the Apple.

"So, in England, while for importation purposes legumes and peanuts are the most concentrated form of protein; rice and wheat and maize, the most important of the cereals; olive oil, sesame oil, peanut oil and almond oil, the finest form of fat; Apples, Lemons, Oranges (and onions) are immeasurably the most important of fruits, which are nerve foods, and without the presence of whose salts physiological functions fail. It will be a grave risk to England's home stamina if her supply of Apples is cut off, because during Winter conditions in this climate they are superior to either Lemons or Oranges, and cannot be replaced by any other fruits."

There is a vast message to humanity in the above article is apparent on its face. Slowly but surely we are beginning to understand "physiological chemistry," of which science "nutritive salts thereapy" is a most interesting and vital branch. The old simile of the human body being like a machine may again hold good roughly here when it is said that no machine can function without all its parts and all its offices being served—and just so the human body cannot live unless those cells which compose it are all fed with the "chemicals" they need for their life.

Without the mineral salts which are in Apples or other fruit there will

be nerve cells and other cells which will not function. Pellagra, due to continuous corn and syrup diet, scurvy, a foul disease in its worst form, and other such diseases are caused by false diet, and there would be no such ailments had the victims Apples to eat. In a word, when Dr. Oldfield warns the British military to look out for its Apples, he not only talks deep science, but just common horse sense.

Letter to the Editor

ORGANISING THE FRUIT INDUSTRY.

The Editor,
"The Fruit World."
Sir,

At a recent meeting of the Orchardists' and Fruit Cool Stores' Association of Victoria, considerable discussion, as reported in your last issue, took place on the need for a State-wide organisation of fruitgrowers which, as occasion arose, could voice the opinion of the industry and speak with authority on its behalf.

At the present time there are a number of organisations each doing good work in their respective spheres, but there is a certain amount of overlapping in their activities and frequent expressions of opinion that lack the weight of unanimity, particularly when making requests to Government or other bodies.

In view of the existing position, the Executive of this Association was instructed to arrange a conference of Victorian fruit growing bodies, with the object of forming an organisation on the lines suggested, and it therefore intends calling a meeting some time towards the end of October or early in November, at which all interested bodies are invited to be represented.

It is not intended to place before the meeting any concrete proposals, but delegates attending will be requested to state the views of their respective organisations and their opinion of the advisability of establishing the proposed body. If the opinion of the meeting is favorable, it is suggested that a Committee be appointed under a Chairman to be elected to formulate a basis for membership and a constitution, under which such a body shall function.

Notices calling the meeting will shortly be issued, but it is possible that some organisations may not receive one. Secretaries of all interested bodies are therefore invited to communicate with the undersigned if they desire to be present, or wish for any further information.

Yours faithfully,
WM. A. STEWART.
Secretary, Orchardists' and Fruit Cool Stores Association of Victoria.
34 Queen-street, Melbourne, 26/9/39.

Personal

The appointment of the **Mr. J. H. Lindon** to the board of directors of Vacuum Oil Company Pty. Ltd., has been announced. Mr. Lindon has just returned from New Zealand, where he was general manager of the company. Since joining the Vacuum Oil Company he has held important executive positions throughout Australia.

Mr. Frank C. Pyke, a well-known fruitgrower, of Ringwood, Victoria, has just returned from his visit to U.S.A. Growers will be looking forward to hearing from Mr. Pyke his impressions on fruitgrowing in the United States, and suggestions for improving the Australian industry.

Mr. J. M. Ward, Superintendent of Horticulture, Victoria, returned to Melbourne at end of September, after having visited England, Scotland, Ireland, Holland, Germany, Canada and U.S.A.

Mr. Ward inspected Horticultural Research Stations and packing houses in the several countries visited, and has obtained much information of value to the industry. It is his intention to visit fruitgrowing centres and to pass on to growers the information obtained.

Readers will be interested to hear of the election of **Hon. A. G. Cameron** to the position as Leader of the Australian Country Party. Mr. Cameron, it will be remembered, was responsible for bringing in recent legislation re the formation of the Australian Apple and Pear Board.

Obituary

The death is reported of Mr. Adolf Wiess, orchardist, of Shepparton East, Victoria, as a result of a head-on collision between two trucks on the Midland Highway, near Shepparton. Mr. Wiess died after being admitted to the Mooroopna Base Hospital, suffering from back injuries.

News in Brief

It is notified in the Commonwealth Gazette that the concession which permitted unwrapped Oranges to be exported to New Zealand has been withdrawn.

The effect of Water Core on the keeping quality of Apples has been studied by Research Officers of the South Australian Department of Agriculture. The result of their findings is published in this issue.

The addition of lime to lead arsenate Codling Moth sprays at Verdun, South Australia, substantially reduced the incidence of Leaf Scorch.

The suggestion put forward by the Tasmanian Minister for Agriculture (Mr. T. D'Alton) that preferred exports for overseas during the war should, out of their abundance, be asked to contribute something by levy to save the Apple industry, was supported in the Mersey Valley. Major A. Brown (President of the Spreyton Primary Producers' Association) said that assistance would be acceptable, but at the same time he thought it would be good to convert some of the surplus into fresh Apple juice, thus leaving the remainder of the crop to share in the better prices.

Interesting information regarding Bitter Pit in Apples (particularly Granny Smith) was given at the last Executive meeting of the Victorian Fruit Marketing Association by Mr. F. M. Read (Department of Agriculture), and Mr. W. M. Carne (Department of Commerce). A summary of this information is published in this issue.

The Tasmania State Fruit Board recommends an amendment to the Apple and Pear Organisation Act to permit of refunds to State associations—the same as operated under the auspices of the Apple and Pear Council.

(Continued on page 7.)

As Spraying is a Necessity
—then use the World's Best—

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Spraying for Control of Insect Pests and Fungus Diseases

Bitter Pit in Apples

IMMEDIATE COOLING AFTER PICKING DELAYS BITTER PIT IN GRANNY SMITHS.

VALUE OF OILED WRAPS.

Replying to a letter from the Victorian Fruit Marketing Association on the subject of Bitter Pit in Apples, the Acting Superintendent of Horticulture, Mr. F. M. Read, M.Ag.Sc., wrote as follows:—

A good deal of work has been done in Victoria on this problem, and experiments on the development of Pit in stored Apples have been made on Croydon fruit over the past few years. The suggestion arises from this year's work, but, of course, will need confirmation, **that immediate cooling after picking delays the onset of Pit often for several months in Granny Smiths.** By contrast, quite short periods of exposure to normal atmospheric conditions, prior to storage, enable Pit development to reach a maximum fairly rapidly.

These remarks apply to Pit developed in store and not to tree Pit, which appears to be a different problem and, in my opinion, not so serious. Further, the onset of storage Pit is not uniform from year to year, and is probably dependent on growing conditions about which comparatively little is still known, despite a great deal of work on many aspects.

It is very likely that, in the coming season, observations on fruit from a typical Gippsland source can be made, but I would reiterate, for the immediate guidance of your members, the suggestion made previously that, in order to avoid Pit in export fruit, it should be cooled as rapidly as possible.

It seems to me that the delay in storing Granny Smith Apples is often intentional, the growers liking the fruit to become greasy before being placed in store as a protection against the onset of superficial Scald, which is probably a greater trouble in Granny Smith Apples, particularly late in the season, than Bitter Pit. It will thus be seen that the two disorders seem to require rather opposite handling methods and, in order to overcome this difficulty, recourse possibly must be taken to the use of oiled wraps.

In the discussion on the subject of Bitter Pit at the last Executive meeting of the Victorian Fruit Marketing Association, Mr. W. M. Carne, Research Officer of the Department of Commerce, gave the following summary:—

Granny Smith Apples in Victoria. Re Pit and Scald.

Pit Liability is greatest in:

1. Immature fruit. Maturity is delayed in dry, hot seasons.
2. Light crops and large fruit.

Scald Liability is greatest in:

1. Immature fruit.

Prevention of Both:

1. Avoid immaturity. Overseas advices indicate that Victorian G.S. are not fit to export before mid-March in ordinary years, or before April in years like 1939.
2. Light crop trees should be picked about 2 weeks later than heavy, in spite of the fact that the light crop fruit is more forward in appearance. It must be understood that small fruits on light crops are more susceptible than larger fruits from heavier crops. Generally light crop fruit is unsuitable for export or long storage.
3. Use oiled wraps to prevent Scald (not Pit).

General Comments.

Victorian Granny Smith Apples are too frequently picked too immature. This can be seen from the fruit exhibited on sale in Melbourne and from the fact that export in 1938 and 1939 commenced towards the end of February. Overseas advices show that during 1936 to 1938 the first satisfactory shipments were during the second half of March, and in 1939, though the fruit was very variable throughout, owing to Pit, the best shipments were from the beginning of April. Most fruit over 2½ in. was more or less severely pitted. **In good or better crops maturity is indicated by a change from a dead to a clear transparent green.**

In light crops ground color is no guide as coloring precedes the starch loss which is still the best indication of maturity in relation to Pit.

The above statements apply to all Pit-liable varieties.

The relation between crop size and Pit liability has been statistically shown in Tasmania with several varieties over several years. The relation between seasonal climate and Pit has been found in W.A. and Tasmania during the past 10 years, and the evidence available leaves no doubt that it also occurs in Victoria.

The relation between maturity as shown by starch loss and Pit has been statistically shown in Tasmania over several years.

The control of Scald by oiled wraps has been long known in Apple-growing countries. Their use for Granny Smith has been general commercial practice in W.A. and N.S.W. for 8 to 10 years, and is extending in Victoria and other States.

Apple Leaf Scorch

LIME SHOULD BE ADDED TO LEAD ARSENATE SPRAYS.

Leaf Scorch has given considerable trouble in recent years on some Apple varieties in the wetter hills districts. Varieties which have been particularly severely affected are Jonathan, Rokewood, and Dunn's Seedling, but few varieties are immune (states Mr. J. A. Beare, B.Ag.Sc., Research Officer, in the "South Australian Journal of Agriculture").

Through Lenswood, Balhannah, Verdun, and Cherry Gardens, Jonathans and Rokewoods have, in some seasons, dropped their leaves before picking was completed, and in many instances, after a short period of semi-dormancy, have blossomed heavily in Autumn.

The Scorch generally commences at the leaf margins at the base of the annual growth. The tip and leaf edges die inwards until most of the blade is involved, and the leaf falls. Scorch also frequently starts from Scab (Black Spot) lesions, and distinct concentric rings of dead tissue surround the old Scab spot. Outstanding differences in the severity of Scorch have been noticed with variations of stock, crop, and other conditions, apparently due to differences in tree vigor.

In spraying trials conducted on Mr. H. S. Petersen's property at Verdun, it has been found **that lime added to the lead arsenate Codling sprays markedly reduced the incidence of Scorch.** This is shown very clearly in the following tables.

Table I.—Mean Per Cent. Leaf Drop on Twenty Laterals Taken at Random from Each Tree, on April 5, 1939.

Spray Used.	Per Cent. Leaf Drop. (Mean of 18 trees)
Lead arsenate in rain water	58.8
Lead arsenate in river water	55.6
Lead arsenate in river water (with lime)	27.3
Phenothiazine	13.0*
White oil (1:80)	21.3*

*Six trees only.

These differences would have been even greater had it been possible to count the leaves on spurs, as these were much more severely defoliated than laterals.

Table II.—Mean Per Cent. Leaves Showing More than One-Fifth of the Surface Scorched, on April 6, 1939. (Result of Examination of 50 Leaves Taken at Random From Each Tree.)

Spray Used.	Per Cent. Scorched. (Mean of 18 trees)
Arsenate in rain water	83.8
Arsenate in river water	64.2
Arsenate in river water (with lime)	3.6
Phenothiazine	0.7*
White oil (1:80)	0.7*

*Six trees only.

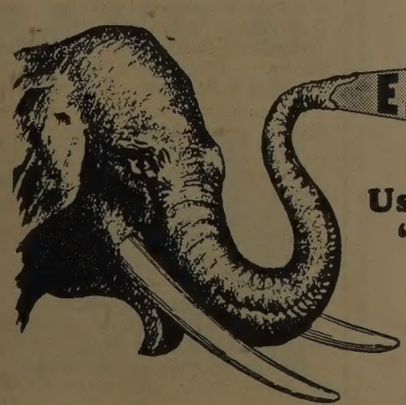
The trees which have been sprayed with a mixture of lead arsenate and lime, and also those sprayed after the calyx spray with white oil or phenothiazine, appeared quite normal, with no obvious premature leaf drop, whereas those sprayed with straight lead arsenate showed marked early defoliation, with some Autumn blossoming.

Recommendations.

For the time being, where Apple Leaf Scorch is troublesome, the addition of 4 lb. of hydrated lime, or 3 lb. of quick lime to each 100 gall. of spray mixture can be recommended.

If satisfactory Codling Moth control can be obtained, using white oil cover sprays, it would be advisable to use this programme where Leaf Scorch has given trouble. The danger of oil spotting must not be overlooked, however. It would still be advisable to add lime to the earlier arsenate sprays, as Leaf Scorch has been seen as early as November.

These recommendations are based on only one year's experimental work, and must not be regarded as final.



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Extract from "BETTER FRUIT," March, 1937, by Dr. R. L. Webster, Entomologist, State College of Washington, Pullman: CODLIN MOTH COVER SPRAYS—"Ever since the imposition of an arsenic tolerance in 1926, and even before that time, investigators have been testing other materials which may be used in place of lead arsenate. Following all these intensive and extensive investigations lead arsenate appears to have certain inherent qualities which place this material foremost as an insecticide for codlin moth control."

JAQUES PTY. LTD.,

Are Actual Manufacturers and Distributors of "ELEPHANT" Brand Sprays.

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INTERSTATE AGENTS:

N.S.W.—Producers' Distributing Society Ltd., Valentine and Quay Streets, Sydney.
Q'ld.—Buzacott's Ltd., Adelaide Street, Brisbane.
S.A.—Silbert, Sharp & Bishop Ltd., Rundle St. E., Adelaide.
W.A.—Westralian Farmers' Ltd., 569 Wellington St., Perth
Tas.—Sole Agents, E. R. Cottier Pty. Ltd., Davey St., Hobart; Exeter, West Tamar; also at Devonport and Latrobe.
N.Z.—Pizzey, McInnes Ltd., Box 1114, G.P.O., Auckland.

Further work on this problem is to be carried out next season. The relationship of this disorder with Apple Scab and other factors is not yet fully understood.

CITRUS SCALE.

Mobile Fumigating Box for Destroying Scale on Citrus Ladders.

TO AVOID TRANSPORT OF SCALES from one citrus grove to another, via picking ladders and sacks, a mobile fumigating box has been developed in California. The box is two ladders wide by 18 horizontal ladders high. Once the ladders are put into the compartment, the doors are closed and a flexible hose, which is attached to the exhaust pipe of the towing car is used to heat the "coffin." The car engine is run for about 10 minutes.

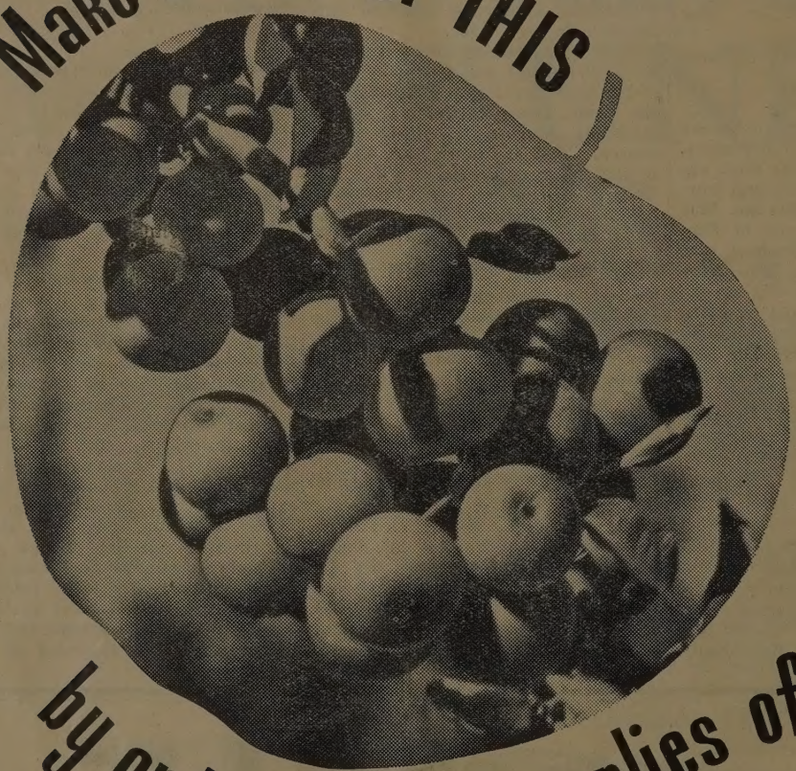
After pumping up pressure to push the liquid along, the operator measures a dosage, turns a valve letting it into a hot vaporising pan. Rapidly expanding, the gas rushes into the ladder chamber. The equipment is ready for the next grove 20 minutes later.—"California Citrograph."

TESTING LEAD ARSENATES—Report from South Australia

FROM TIME TO TIME samples of lead arsenates are obtained by the Departments of Agriculture in the several States, and the results of the analyses are then published.

The following analyses of samples of arsenate of lead are republished from the South Australian "Journal of Agriculture" of August, 1939.

			As Received.				Calculated on Basis of Oven Dry.				
No.	Brand.	Moisture.	Acidity c.cs. of Caustic Soda (N/100).	Lead Oxide (PbO).	Total Arsenic (As_2O_5).	Water Soluble Arsenic (As_2O_5).	Lead Oxide (PbO).	Total Arsenic (As_2O_5).	Water Soluble Arsenic (As_2O_5).	Suspension Test. Five Mins.	Suspension Test. Thirty Mins.
		%	%	%	%	%	%	%	%	%	%
3759	Blair's Powder	0.1	1.4	63.8	32.5	0.24	63.9	32.6	0.24	34.2	12.2
3760	"Orchard" Powder	0.04	2.0	64.1	32.3	0.20	64.1	32.3	0.20	93.4	55.3
3761	"Elephant" Powder	0.5	1.3	62.4	31.3	0.18	62.7	31.4	0.18	92.9	74.6
3762	Berger's Paste	41.0	1.1	37.5	19.1	0.13	63.6	32.4	0.22	95.4	90.5
3763	Berger's Powder	0.07	1.0	64.5	32.1	0.29	64.5	32.1	0.29	31.1	7.5
3764	Berger's Colloidal	45.4	11.5	33.5	16.9	0.10	61.4	31.0	0.18	94.6	89.9
3765	Blyth's "Bluebell" Powder	0.39	1.2	62.6	31.5	0.27	62.8	31.6	0.27	92.1	77.7
3766	Blyth's "Bluebell" Paste	41.0	1.7	37.5	19.1	0.24	63.6	32.4	0.41	94.3	86.0
3767	Hemingway's Powder	0.35	1.9	62.5	31.6	0.18	62.7	31.7	0.18	89.7	71.1
3768	"Aero" Paste	46.7	1.9	34.0	16.7	0.21	63.7	31.4	0.39	92.8	83.2
3769	"Aero" Powder	0.58	1.6	63.5	31.1	0.20	63.9	31.2	0.20	93.4	80.0
3770	"Palmprest" Powder	0.32	5.1	63.1	31.3	0.17	63.3	31.4	0.17	30.9	9.7
3771	Cooper's Paste	39.5	2.0	39.1	18.9	0.33	64.7	31.3	0.55	17.8	12.2
3772	Cooper's Arsinette	0.47	2.8	61.7	31.2	0.17	62.0	31.4	0.17	81.6	77.0
3783	"Vallo" Powder	0.2	0.9	63.8	32.2	0.28	63.9	32.2	0.28	91.5	74.8
3784	"Vallo" Paste	46.4	0.7	34.7	17.1	0.10	64.7	31.9	0.19	85.7	67.4



★ Cover sprays of Shell Whitespray will soon be essential for the production of clean fruit — fruit free from Codling Moth and other blemishes.

Order your supplies of Shell Whitespray now. This well known oil is still selling at the same price.

SHELL WHITESPRAY now!

THE SHELL COMPANY OF AUSTRALIA LIMITED (Incorporated in Great Britain) SO 39/6E

BLACK SPOT OF APPLE AND PEAR.

Spray Programmes for Control.

THE FOLLOWING revised programmes for the spraying of Apple and Pear trees for the control of Black Spot are given in a pamphlet just issued by the N.S.W. Department of Agriculture.

Apple Spray Programme.

(a) Bordeaux mixture 6:4:40 or lime-sulphur 1 per cent. (approximately 1:20 for commercial lime-sulphurs) at "green-tip."

(b) Lime-sulphur 0.25 per cent. (approximately 1:80 for commercial lime-sulphurs) at "spur-burst."

(c) Lime-sulphur 0.25 per cent. (approximately 1:80) at "pink."

(d) Lime-sulphur 0.15 per cent. (approximately 1:140) at "calyx," when the petals are falling, combined with the lead arsenate for Codling Moth control, and calcium caseinate.

(e) Lime-sulphur as in (d) combined with the lead arsenate cover sprays if the weather is conducive to Black Spot. It should be realised, however, that it is not desirable to await the lead arsenate spraying date if the weather conditions indicate the immedate necessity for a Black Spot spray.

Pear Spray Programme.

(a) Bordeaux mixture 6:4:40 or lime-sulphur 1 per cent. (1:20) at "green-tip."

(b) Lime-sulphur 0.25 per cent. (1:80) at "spur-burst."

(c) Lime-sulphur as in (b) at "white." (Equivalent to "pink" in Apples.)

(d) Lime-sulphur 0.15 per cent. (1:140) with lead arsenate cover sprays.

No application of lime-sulphur at "calyx."

ZINC COMPOUNDS IMPROVE GRAPE VINES.

The satisfactory treatment of "little leaf" in certain deciduous trees by the use of zinc compounds, has led to the discovery that applications to grape vines have materially improved the health of the vine and the quality and quantity of the crop.

A solution of two pounds of zinc sulphate per gallon of water is used; it is painted on immediately after pruning, the zinc being introduced through the fresh wounds.

In one Californian test, 1,400 pounds of grapes were harvested from fifty treated vines as compared with 1,040 pounds from untreated vines

Control of Red Spider

Prolific and Destructive Pest.

MANY DIFFERENT KINDS of garden plants, shrubs and vegetables, including Peas, Beans and Strawberries, are liable to infestation by the mite commonly known as red spider. This pest is favored by warm, dry conditions; cool weather and rain check the pest considerably, and for this reason frequent overhead watering will sometimes prevent an infestation from developing sufficiently to cause noticeable injury.

Signs of Pest.

Infested foliage becomes mottled, and in severe infestations the leaves wither and fall prematurely. The mites spin fine webbing on the undersides of the leaves and may also web the leaves together.

The adult mites, which vary from dull yellow to brick red in color, are just large enough to be seen with the unaided eye. They infest the underside of the leaves and here they lay their minute, spherical, transparent eggs. **One female may lay 70 eggs at the rate of three to seven per day, and in warm weather these may hatch in three to four days.**

The young mites, which are white to yellowish in color, resemble the adults in general form, but are much smaller. They increase in size and undergo a series of moults before reaching the adult stage, and in hot weather the mites may pass from egg to adult in ten days, many generations occurring during the season.

Control Measures.

Control of this pest can be obtained either by spraying with lime-sulphur (1 in 100) or dusting with a mixture of equal parts of sulphur and hydrated lime. However, it is usually necessary to treat the plants at weekly intervals at least, in order to control the pest completely.

Dusting with a mixture of fine sulphur and hydrated lime in equal parts is recommended for commercial areas. For Beans and other vegetables it is preferable to use the sulphur dust, as the mites are not readily reached by sprays on these plants.

For the control of this pest on hardy garden shrubs an emulsified white oil at a dilution of 1 gallon in 40 gallons of water is recommended. This spray has been found to destroy all stages of the mite and is also of value in controlling most species of scale insects which are frequently present on such plants.

The Judges, Messrs. F. Greatorex and T. F. Black watching Mr. J. Ahern in the Open Pruning Competition at the recent fruitgrowers' Field Day at Pakenham, Vic.

—"Leader" photo.

N.S.W. Fruit Crop Prospects

CONDITIONS GENERALLY FAVORABLE FOR POME AND STONE FRUITS.

IN THE LATEST REPORT from the Department of Agriculture, crop prospects are set out as hereunder:—

Fruit (Pome):

Cold winds in August in the Tallong district retarded Spring growth. **Apples:** Heavy budding of Granny Smith, Jonathan, Londons, Romes, Democrat and Gravenstein Apples is in progress; Delicious are variable and for the most part medium. Yates, Buncombe, King David and other varieties are moderate to good.

The outlook for **Pears** generally is satisfactory. Packham's Triumph, Williams, Howells and Beurre Bosc are heavy. Winter Coles are medium, but Josephines are poor.

At **Young** satisfactory bud development is apparent on all varieties of Apples and on Packham and William Pears; other kinds of Pears, however, are only moderate to light.

In the Orange district, Romes and Granny Smith Apples are in medium to good bud, and there is a moderate showing on Jonathan and Delicious. Packhams and Williams Pears are also medium to good.

There is every indication of good bloom on all varieties of Apples and Pears in the Kurrajong district. On both Apples and Pears at Yenda (Murrumbidgee Irrigation Area) there is a good bud show.

Stone Fruits:

The outlook for **Cherries** in the **Young** district is stated to be moderate to good. Narrabeen **Plums** are commencing to blossom, and Santa Rosas are well forward—generally the blossoming should be good. **Peaches and Nectarines** promise well; there is a good budding on Robe de Sargeant **Prunes** and fair development on D'Agens. It is expected that a moderate crop of **Almonds** should set.

Cherries, Peaches, Plums and Nectarines are expected to carry good bloom in the **Orange** district.

There is a good showing of early Apricots, noticeably Glen Garry and Allen's Early, at **Windsor.**

Glen Garry Apricots have flowered in the Kurrajong locality and on appearances the setting is good; other varieties are in bloom. All kinds of Plums and Peaches are carrying plenty of blossoms. Early Peach trees have set heavy crops in the Parramatta-Camden area.

The flowering of **Apricots at Yenda** (M.I.A.), although somewhat late, is said to be excellent. There is also a very good show on Golden Queen and Phillips Peaches. Some trees are reported to have died out owing to effects of flood waters.

NEWS IN BRIEF—(Continued).

A plan to aid the fruit industry has been put forward by Mr. T. D'Alton (the Tasmanian Minister for Agriculture).

The matter of appointing a Commercial Officer to enquire into possible trade with the East or any other new markets was held in abeyance at the last Tasmanian State Fruit Board meeting.

Vine and stone fruits, also Pears are showing promise of big crops at Renmark, S. Aust.

A severe frost almost wiped out the vine and stone fruit crops at Monash and Lone Gum—River Murray districts of S. Australia.

S. Australia is giving consideration to the formation of an Apple Pool as operated during the last war.

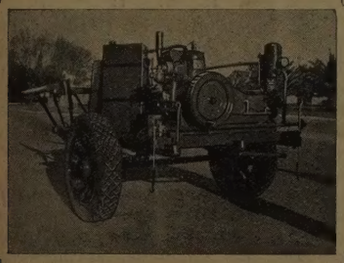
In S. Australia there is an expressed desire that the Australian Apple and Pear Council should not be disbanded until some other means of co-ordinating the work of State organisations is brought into being.

The annual meeting of the S.A.F.M.A. will be held at Adelaide on November 24.

In 1938 the Canadian Apple crop was just on 16,000,000 bushels.

The estimates for 1939 are for a crop of around 16,300,000 bushels.

— THE —
BAVE-U
POWER SPRAYER



All models can be fitted with pneumatic tyres at little extra cost.

Write for Particulars

Russell Burrows Pty. Ltd.
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THERE'S ONLY ONE WAY
TO KILL CODLIN..

Kill the grubs with arsenic (lead Arsenate) and kill the eggs with oil (Gargoyle WHITE Oil) using them together (they mix perfectly) to get the best results. It IS possible to keep your orchard absolutely free by spraying with this combination at the right times. You may have to spray 5 or 6 times, but it will give your trees immunity, and you bigger and better crops. Ask always for "Gargoyle" to be sure of getting the highest quality WHITE Spraying Oil on the market.

Protect your orchard with

VACUUM OIL COMPANY PTY. LTD.
(Incorporated in Australia)

Gargoyle WHITE Spraying Oil

SP92

VICTORIAN NEWS AND NOTES

Melbourne Royal Show

Apple and Pear Entries Especially Good

OWING to the severe Summer conditions, entries in the fruit section at the Royal Agricultural Show, Melbourne, were limited slightly, but the quality of the fruit, especially Apples and Pears, was up to, if not above, the usual standard. All the fruit was remarkably free from blemish.

Messrs. W. H. and D. F. Calvert, of Tasmania, and Mr. J. D. Grant, shared most of the honors in Apple sections, while the Thiele family divided the prizes amongst them in the Pear sections.

The Governor-General's Shield was won by Messrs. Calvert, showing a pyramid of excellently graded Apples: Tasma, Cleos., Granny Smith, Crofton, Sturmer, Lalla, Rome Beauty, French Crab, Golden Delicious, and Stone Pippin.

Messrs. J. D. Grant and Journing were second in this section, and the Diamond Creek Horticultural Society was third. All these entries were excellent, and a very small margin separated first, second and third.

Among the prize winners in other sections were:—

Apples: Messrs. J. D. Grant, W. H. and D. F. Calvert, A. Thiele. W. F. Boe, E. Thiele, N. Brown, N. G. Herring and N. P. Webster.

Pears: Messrs. E. Thiele, A. Thiele, W. A. Thiele, E. H. Zerbe, E. I. Lawford, J. V. Thiele.

The Fruit Exporters' Handling Committee Shield was won by Pakenham Upper S.S. (John Black). Second prize went to Pakenham East S.S. (Norah Swanston), and third to E. Burwood (Jack Lewin). The Gerrard Shield also went to Pakenham Upper (Margory Mapleston), while second and third places went to Army Road and District Young Farmers' Club (K. Matthews) and Pakenham Young Farmers' Club (Marjorie Black) respectively.

Citrus entries were not quite up to standard as regards quality, but in quantity the entries were nearly double those of last year.

In the citrus packing competition the winners of 1st, 2nd and 3rd places were excellently packed. The winners were: 1st, Wood, Son, Seary Ltd., of Renmark; 2nd, Irymple Packing Pty. Ltd., and 3rd, Renmark Fruitgrowers. The Rupert Watson Shield for a collection of packed citrus fruits was also won by Wood, Son, Seary Ltd. The Mildura Co-operative Company took second prize.

Other winners in the Citrus Section included:—Curlwaa Co-op. Packing Society Ltd., W. A. Missen and E. V. Page, E. L. Watmuff, L. A. P. Webb, R. Watson, W. Heath, R. D. Hollens, Wm. Hallett, J. L. Miller, G. A. Hill, E. L. Lane, J. Fletcher, D. B. Hailbed, V. Roberts.

In the **Dried Fruits Section**, the Irymple Packing Pty. Ltd. secured the premier awards. Others to secure prizes included: Aurora Packing Company Ltd., Mildura Co-op. Fruit Co. Ltd.

"VALLO" SPRAYS

BEST by TEST

Arsenate of Lead Powder
The Finest Procurable. Package, 56 lb., 28 lb., and 4 lb.

Arsenate of Lead Paste
Arsenical Content of 99.60 per cent. Purity. Package, 1 cwt., 28 lb., 4 lb.

Lime Sulphur Wash
Minimum Polysulphide Sulphur, 20 per cent. Package, 44 Gal., 4 Gal.

Copper Sulphate Neige
98/99 per cent. Package, 1 cwt. and 56 lb.

Nicotine Sulphate 40%
Guaranteed 40 per cent. Package, 1 Gal. ½ Gal.

Prepared White Oil
89 per cent. Mineral Oil. Package, 44 Gal., 4 Gal.

Colloidal Sulphur
50 per cent. Sulphur, Weight for Weight. Package, Cases, 8 x 5 lb. Jars.

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VICTOR LEGGO & FARMERS LTD.
218-222 Queen Street, Melbourne, C.1. — C 1243

ORCHARD REQUISITES AT ROYAL MELBOURNE SHOW.

At the stand of **Messrs. Daniel Harvey Ltd.**, 70 Plummer-avenue, Harvey fruit-graders and processing equipment were demonstrated. Of particular interest were the two runway horse-hair belt citrus polisher—this was shown in a complete equipment fitted to an 8cc grader. Some new and exclusive features on the 9cc grader were noted. This machine is fitted with elevator and hopper, case rollers and packing stools.

Other lines noted of interest to fruit packers were sorting tables, lidding presses, waxing plants, gravity conveyors, etc.

In the orchard implement section of Daniel Harvey Ltd.'s stand, amongst other implements were noted the offset tandem disc cultivator, tractor power lift, mouldboard orchard ploughs, disc ploughs and the Harvey built Petty plough.

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At the stand of **Messrs. Russell and Company** were noted a range of Bave-U power sprayers. Of particular interest was the underslung model which has many outstanding features.

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The Gerrard Wire Tying Machines Company, whose stand was situated at 144 Gibb-street, contained their usual range of wire tying machines. In continuation of their policy of disseminating advice on the packing and grading of fruit, fruit packing charts were distributed freely setting out the latest methods for handling Apples, Pears and citrus fruits.

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In Skene-street was the comprehensive display of **Messrs. H. V. McKay Massey Harris Pty. Ltd.** Of special interest to fruitgrowers was the new Sunshine two-wheel power sprayer. Apart from the standard equipment, this spraying outfit is available for use on dray or truck in any other part of the orchard.

The range of tillage implements for fruitgrowers included disc cultivators, disc stump jump reversible plough, orchard cultivators, spring or rigid tynes and the new model orchard plough with movable handles.

The orchard Pacemaker tractor is a machine which provides ample power for the heaviest orchard implements. Fitted with steel or rubber tyres, this tractor appears to be an ideal machine for the orchardist.

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The Lightning Fruit Grader Company had their usual stand in Plummer-avenue. Fruit grading equipment included patent sorting elevators and tables, fruit wipers and brushes, wheel gravity conveyors and various models of fruit graders to suit every type of fruit.

At the orchard implement section of their exhibit were included strip ploughs, tractor and mouldboard ploughs, disc ploughs, spring tyne and rigid tyne cultivators, offset disc cultivators, etc.

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Messrs. Victor Leggo and Farmers Ltd. reported many visits from their clients at their stand at 35 Lennon-avenue. This firm handle a complete line of orchard sprays, including Arsenate of Lead (powder and paste),

SPRAY ADVISORY SERVICES.

Broadcasts by Victorian Department of Agriculture.

Control of Black Spot and Codling Moth of Apples and Pears.

The Victorian Department of Agriculture has arranged with several broadcasting stations to broadcast spray advice to growers for the control of Black Spot and Codling Moth of Apples and Pears, on the following days and times:—Tuesdays and Fridays in the "Man on the Land" session—Station 3UZ at 6.30 a.m.

At the most important periods when sprays are required—several times a day for two or three days from Station 3SR Shepparton. This advice is for the control of Codling Moth in Goulburn Valley Pears in particular. Friday—just after produce, advice at 7 p.m. from Station 3UL Warragul.

In addition to the usual sprays for Codling Moth and Black Spot, if any other important problems arise during the season, information on these problems will also be included in these sessions.

Lime Sulphur Wash, Copper Sulphate Neige, Nicotine Sulphate, Prepared White Oil, Colloidal Sulphur, etc.

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Of particular interest on the stand of the **International Harvester Company** was the McCormick-Deering 0-14 orchard tractor. This tractor is ideal in size, design and mobility for orchard, citrus grove and vineyard work.

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Messrs. Trewhella Bros. Pty. Ltd., of Trentham, Victoria, gave working demonstrations of their Monkey Horse Grubbers, Stump Pullers, Monkey Jacks and various models of these machines suitable for cultivating and improving land.

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Ronaldson-Tippett fruit spray plants were demonstrated and included sizes to suit practically every possible requirement. A feature of these machines is that all main working parts of both engine and pump run in a constant oil bath, ensuring lifelong reliability with a minimum of replacements.

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The stand of **Messrs. R. Werner and Co. Pty. Ltd.** at McCracken-avenue was of special interest to those faced with cool storage problems. The likely difficulties to be experienced in oversea shipments of Apples and Pears during the coming season has turned the attention of fruitgrowers to the necessity for providing more cool storage space, particularly on individual orchards. Messrs. Werner and Company are devoting particular attention to this aspect, and a number of enquiries were received at their stand at the Royal Show.

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The Howard Rotary Hoe was well dislayed at **E. Hassett & Sons'** usual stand at the Royal Melb. Show. Several sizes and models were in operation and created much attention. We noticed the "Junior," which is an ideal machine for tilling and interrow cultivation and is popular with the commercial flower grower and nurseryman. The "Eight" can be adjusted for low set from 1 inch to 7 inch tilth. It is used for ploughing in cover crops for mulch and manure benefits. The "DH 22" is recommended for reclaiming scrub country, pasture renovation and heavy work. It can be had in iron spud or pneumatic wheel types. The larger machines are adapted for attachment to motor tractor power. Another model, the "12 H.P." is suitable for general farm cultivation, pasture renovation, market garden work or any quick, medium-heavy cultivation. There is a Howard Rotary Hoe to suit any agricultural requirement.

In addition, Hassetts exhibited the Fowler-Sanders English-built petrol engine that is noted for its versatile operation on the farm, its ease of starting, low fuel consumption, easy installation and range of uses. It can be had in sizes from 1½ to 16 B.H.P. All of these machines may be seen at the Melbourne show rooms of E. Hassett & Sons, 626 Bourke-street.

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A big array of "Fordson" tractors greeted the visitor to **Malcolm Moore's** permanent stand at the Royal Melbourne Show. Here were seen models to suit every transport and haulage requirements from the large 13-ton Mormon-Herrington All-wheel-driven transport truck which was loaded with great logs of timber, to the ubiquitous 14-26 Standard English Model Fordson tractor that can be seen on orchards in the Peninsula, Kyabram, Shepparton, Mildura and other orchard districts. This tractor is intended to displace the old-style 8-horse team and is found by its users to do more work at less cost and with greater efficiency.

Other classes of motor transport and machinery were noted. One small tractor has been specially designed to work in conjunction with the Howard Rotary Hoe. Road graders, power shovels, road rollers and many other intriguing implements made this stand both instructive and interesting.

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Mr. G. W. Mawman's stand at the Royal Melbourne Show gave a practical demonstration, in wet sand, of the ease with which the Homebuilder can be used to make home-made bricks for all building purposes. This is an Australian invention that has received ready recognition in all States of Australia as well as overseas. The Homebuilder is constructed in various sizes and blocks and bricks can be made out of cement, sand, gravel, cinders or, in fact, any accessible soil in recommended proportions. Mr. Mawman reports one experience in which school children in Transvaal (S. Africa) made 3,096 blocks for a school building, the mixture being gravel 8 parts, sand 4 parts, and cement 1 part. So satisfied were the school authorities and the parents of the children that they have decided to use the Homebuilder method on eight additional large buildings.

Fancy-faced blocks can be made to give an unusual finish on buildings, garden walls or driveways. Poultry sheds, barns, storerooms, workshops, or living houses can all be built with the use of Lightning Homebuilders. Mr. Mawman's address is 149 Bay-road, Sandringham, S8, telephone XW 2995 or the Homebuilder may be seen at J. H. Rudd & Co.'s showrooms, 103-105 William-street, Melbourne.

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Fruit and general packing from Australian-grown Pinus radiata was well displayed on the stand of the **Forestry Pulp & Paper Co.** at the Royal Melbourne Show. The company has pine plantations both in Victoria and Tasmania. The main holding and mills are at Dartmoor, Vic., where there are 10,000 acres of pines in varying stages of maturity. The mill has already started to cut 12-year-old trees and the drying kilns are now ready for operation.

2,500 acres at Pittwater, Tas., and 4,000 acres at South Bruni Island, Tas., provide plenty of timber coming on for later cutting. At Rosebud, Vic., the company has planted 1,200 acres of trees.

All sizes of shooks for fruit cases were on exhibit, and the company claims that they are quite as good as imported shooks, also, being Australian grown, they should be welcomed and adopted by orchardists and fruit exporters. The company's head office is at 399 Little Collins-street, Melbourne (MU 3437), and the sole wholesale distribution of the company's products is made by Messrs. Gunnerson, Nosworthy Pty. Ltd., 67 Yarra Bank, South Melbourne, S.C.4, telephone MX 4621.

Victorian Horticultural Report

HORTICULTURAL conditions in Victoria for the month of September are reviewed in a report issued recently by the Department of Agriculture.

During September, weather conditions improved very considerably and enabled orchardists to proceed with the application of fertilisers and ploughing under of the excellent cover crops which were evident in most districts.

The position in regard to the control of fungous diseases has been improved, because in the case of Apples and Pears, at least, it has been possible to apply the necessary protective sprays according to schedule. The danger of **Septoria Spot** infection in the **Valencia** Orange crop has diminished, together with the fact that growers took the precaution of applying a **Bordeaux mixture spray.** Frosts have occurred in most inland districts, being most severe in the Mildura district, where some vineyards were heated. However, no serious damage has been reported.

So far there has been little sign of **Green Peach Aphis** and the **tar distillate spray** which was used very extensively this year appears to have been effective.

In the **Goulburn Valley areas,** it is still too early to say whether many **Peach trees** will die as a result of the severe water-logging of the soils during the Winter. A better indication will be obtained when the leaf growth is more advanced.

Amongst the deciduous fruits the stone-fruit trees have blossomed very much better than was expected, and there is every prospect of normal crops in most districts. In the Goulburn Valley, **Phillip's Cling** Peaches have not blossomed as well as other varieties, and in the Heidelberg district most varieties will be 50 per cent. below normal. A good blossoming of **Plums** and Prunes has been reported from the majority of districts, but Plum prospects for the **Mornington Peninsula** seem uncertain.

Apples are likely to blossom well and bear good crops, but Pears, in the **Bendigo** and **Harcourt** districts, have disappointed, while the **Josephine** and **Winter Nelis** varieties in the **Kyabram** district are expected to carry only two-thirds the normal crop. Both **Apples** and **Pears** are likely to be below normal in the **Amphitheatre** district.

In the northern citrus areas the **Washington Navel** harvest has been almost completed, and many growers are starting to harvest their **Valencias,** which are not yet at their best, at least in the **Swan Hill** district. In **Mildura,** the fruit is, perhaps, on the small side, and some damage has been caused by July frosts, but it is remarkably free from **Red Scale,** as is also the fruit from **Swan Hill.** At the latter centre, and at Rochester, there was a great deal of wastage in the Navel crop and there is also some wastage in **Valencias.**

Good crops of **Lemons** are evident in the **north-eastern districts,** but elsewhere are disappointing, being small in size at **Swan Hill** and, at **Rochester,** being reduced 50 per cent. by **Brown Rot** and **Septoria.**

YOUNG FARMERS' CLUBS.

Activity in Victoria.

EXCELLENT WORK is being done in the various districts and branches, as is shown by the following reports:—

Castlemaine North: The projects mainly centre round vegetable and floral culture, and excellent book work is to be seen.

Ravenswood South: Recently held a Field Day. The events included tree planting along the roadside and in the school orchard. A pruning demonstration was given by Mr. W. Harris, of the Department of Agriculture. Pupils also learn budding grafting, and packing, and a packing demonstration was given under Mr. Harris' supervision. The competition was judged on points, which were allotted as follow, the possible maximum being 60 in each case:—Two teams competed, consisting of three girls and three boys. Girls: 54, 56 and 57; boys, 46, 49, and 50. The boys are much younger than the girls; in fact, one boy was only seven years old. None of them, either boys or girls, is over 13 years.

The District Orchard Supervisor, Mr. Tomlinson, also gave a talk on the results of pest control methods being used in the district. This Club has been competing between schools for a shield for Apple packing. During the four years this competition has been conducted, Ravenswood South has won it three times, and it now becomes the Club's property.

Wedderburn: Although at first hampered by drought conditions, arrangements have now been made to engage in floral, vegetable and pastoral studies. Land has been offered rent free. The girls will also take as home projects cooking and needlecraft.

Buckrabanyule: A new Club—the school projects consist of wheat, different varieties being tested. There are also ten different kinds of grasses in plots and vegetable culture. The girls are interested in flowers and needlework. Home projects include cattle, sheep, and poultry.

Builder's Foreman: "Excuse me, ma'am, but are you the lady as was singing?"

Lady Vocalist: "I was singing, yes."

Builder's Foreman: "Well, would you kindly not hold that top note so long. My men have twice knocked off work, thinking it was the dinner whistle."

FRUIT TREES

You take no risks in planting an orchard with our trees. We supply only the best trees—give orchardists the chance to start right. Clean certificate can be had with each consignment if desired. Consult us also if wanting orchard advice. It is free for the asking – Write:

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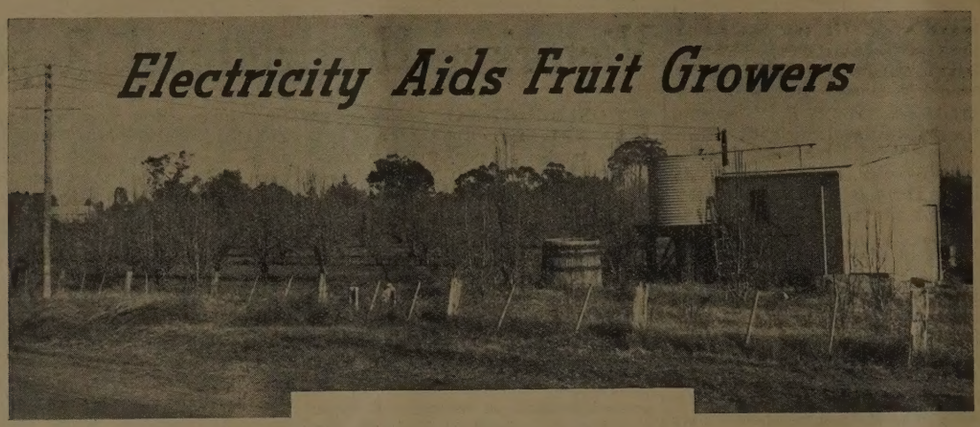

Electric Power to Stationary Spray Plant

WITH THE RECENT installation of two new stationary spray plant systems in the Goulburn Valley and the work of installing similar systems on two orchards in the Mitcham district now in progress, evidence is given of the growing appreciation of orchardists of the advantages gained by its adoption.

The pioneer of the system in the Goulburn Valley is Mr. W. Foster, who installed plants at Murchison and Shepparton East some five years ago, and in the Spring of 1938 the system was inaugurated on the orchards of Mr. E. J. Rule, of Shepparton East, and Messrs. Turnbull Bros., of Ardmona. The system is at present being installed on orchards at Mitcham, operated by Mr. E. C. Godfrey and Mr. E. T. Farmilo.

A considerable expansion of the use of the stationary spray system is expected as orchardists become familiar with the pioneer installations in use in the different centres.

It is really surprising that the system has not been more rapidly adopted by orchardists of this State who have had electricity supply available for a number of years. In the neighbouring State of Tasmania the first installation was made in 1929 and in the Huon Valley last year no less than 161 electrically driven spray plants were in use.

Spraying Time Halved.

Under the old spray-cart system it used to take five men, with two portable outfits, 10 days to spray a 35-acre orchard of aged Apple trees. Under the new system the time is reduced to five days. This compares with Mr. Foster's experience at East Shepparton, where, with four hoses, the entire orchard of 7,000 trees is covered in four days.

The necessity for reducing to the absolute minimum the time taken to spray an orchard is universally stressed. A delay of a few days (occasioned by bogginess of the orchard) will often cause great damage and, furthermore, the time lost in refilling and travelling between the orchard and the supply point accounts for a large proportion of the total cost of spraying, and reduces by as much as 50 per cent. the time usefully occupied.

Serious as these disadvantages are, they are equalled in importance by the incidental mechanical troubles always associated with portable plants. Pumps, engine and vat are subject to extreme wear and tear on rough ground, and as every orchardist knows, it is seldom that a day's spraying is got through without some necessity for repairs and adjustments with the accompanying waste of time when it can be least afforded.

The effect of the spray solution, in the mist of which the engine is continually operating, is highly detrimental to its working efficiency, and depreciation necessarily occurs at a high rate.

The New System comprises a stationary pumping plant located in a shed suitably placed at the edge of the orchard, close to electricity and water supply, connected to a network of pipes laid throughout the orchard with stand-pipes serving, say, 50 trees. The plant comprises a pump and motor to drive the water through the pipes to the orchard from mixing vats which vary in size from 200 to 400 gallons capacity with agitator to keep the solution well stirred.

The pipe system consists of three-quarter-inch pipes laid in the ground, or suspended overhead, with half-inch laterals serving the standpipes throughout the orchard.

The orchardist simply takes a length of spray hose (80 to 120 feet) and the necessary spray nozzles or gun with him through the orchard and connects up with the standpipes, being thus unhampered by the disadvantages of a spray cart.

Installation costs vary, and the safest plan is to have each proposal estimated. Complete particulars and plans are readily available to interested orchardists. — "Victorian Rural Electricity News."

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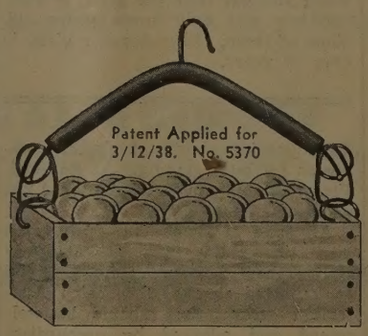

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VICTORIA.

North Mooroopna Y.F.C. Field Day.

The North Mooroopna Young Farmers' Club recently held another very successful Annual Field Day. There was a large attendance, Club representatives and enthusiasts being present from Picola, Grahamvale, Shepparton East and Tatura.

The visitors included Mr. R. Kilpatrick, M.L.C., Mr. J. G. B. McDonald, M.L.A., Mr. Pittman (Principal of Dookie College), Cr. G. H. Norton (President), and Councillors of Rodney Shire. They were first welcomed by Len Goodwin, a Club student, and then by Mr. T. A. Meaklim, President of the Advisory Council.

Mr. McDonald extended his congratulations to the Club, and stressed the value of the work. Special mention was also made of the quality of book work, the high standard of exhibits in the cattle section, and the interest and enthusiasm shown by officials, students, and parents.

In addition to being judged on the merit of exhibits, which included horses, swine, handwork, and gardening, the students were subjected to an oral examination during the afternoon by Messrs. J. Courtney and J. J. Keddie, Supervisors in the Argus and Australasian Shield competition.

APPLES AND PEARS IN COOL STORAGE.

The following statement showing the quantities of Apples and Pears reported to be held in cool stores in Victoria on June 30, July 31, and August 31, 1939, has been released by the Government Statist.

	June 30. Cases.	July 31. Cases.	Aug. 31. Cases.
Apples	678,000	576,000	421,000
Pears	93,000	66,000	42,000

(Victorian News continued on page 28.)

Tasmanian News and Notes

WEATHER HINDERS WORK ON ALL ORCHARDS — INCREASED DEMAND FOR CANNING APPLES ANTICIPATED — TASMANIAN GROWERS VISIT MAINLAND — TRANSPORT CONDITIONS — REWORKING VARIETIES — POOLING SYSTEM FOR FRESH FRUITS SUGGESTED AT STATE FRUIT BOARD MEETING — AUSTRALIAN PUBLICITY ALSO ADVOCATED — CASE MATERIAL DIFFICULT TO OBTAIN — SUGGESTION FOR HELPING FRUIT INDUSTRY.

(By Our Correspondent.)

Seasonal Notes.

THE WEATHER continues to be abnormally wet in the north, and consequently work on the orchards has been delayed. In the south it has not only been abnormally wet, but cold and windy, and all work is very much behind. Many growers have been unable to apply a Winter oil spray and ploughing has been impossible in many orchards.

Blossoming is very late, and we hope the weather will improve in time to allow the spot sprays to be applied successfully. Usually this is well in hand at this time. I should think that the long continuation of wet will lighten the setting of both Apples and Pears.

Apricots will also suffer.

Owing to so many men being called up for training, everyone is working under difficulties which would have been bad enough even under favorable weather conditions.

However, a uniformly light crop may turn out to be a blessing in disguise, as it is unlikely that normal oversea shipments can be maintained and this will tend to throw the mainland markets into disorder.

We anticipate an increased

demand for canning Apples

and for evaporating, **but these outlets cannot cope with the probable surplus, and it would appear that the Government will have to give some assistance to prevent hardship and to keep the growers on the land till better times come back again.**

Visit to Mainland.

The Tasmanian growers who visited the mainland recently, under the wing of Mr. T. J. McKinlay, appear to have had a pleasant and instructive trip, which must do a lot of good from an educational point of view. They all now fully realise the extent to which fruit deteriorates in transit, especially ex cool store.

Transport Conditions.

An improvement in the conditions of transport is long overdue, More care in handling is essential to avoid bruising, and cooler holds on the ships to delay the deterioration of the fruit.

I understand that a party of mainland growers is likely to visit Tasmania about next January.

Reworking Varieties.

Many growers are taking the opportunity of the probable derangement of the trade to rework less favored varieties to those that are considered more profitable.

Red Jonathan and **Red Crofton** seem to be favorite Apples this season and **Packhams** the favorite Pear.

To date no further information is to hand concerning the claims against the "Viking Star" and "Jervis Bay" for alleged faulty carriage of fruit.

The State Fruit Board met on September 13, 1939, all members being present.

Matters relative to the uncertain outlook of the industry owing to the war were discussed at length.

Messrs. W. H. and D. Calvert, were congratulated on their exhibit at the Brisbane Show.

The matter of appointing a commercial officer to enquire into possible trade with the East, and any other new markets, was held in abeyance owing to the war.

Many growers favor the inauguration of a pooling system for fresh fruits, while conditions remain abnormal. The details would require a lot of careful thought.

Others are inclined to believe that an intensive advertising scheme would meet the situation.

Personally, I consider that **much can be done to increase the Australian consumption, especially if costs of distribution can be reduced by some means so as to allow case lots to be delivered at a reasonable price.**

It is expected that the small fruit growers should have a fair demand for their product next season.

I understand that supplies of **canned** Apples are mostly sold out, so there should be a big demand for suitable varieties for this purpose next season. **Sturmers** appear to be most popular as a canning variety.

Supplies of tin-plate may be hard to get if there is a sudden increase in demand.

Supplies of

Case material

are likely to be a source of worry as local mills are working short handed owing to so many men enlisting, and have been delayed by the constant wet weather. Imported supplies are a little uncertain, and the price higher than last year.

The Apple and Pear Board has a very difficult task before it, and it is most unfortunate that the natural difficulties of the industry are being increased by the general upset in trade conditions at the commencement of its duties.

The Hon. the Minister for Agriculture, Tasmania, (Mr. T. D'Alton), has made a very good suggestion to the Federal Government for helping the fruit industry. In brief, it is to the effect **that as certain favored industries, such as wheat, wool, meat, butter, etc., will have an abnormally prosperous period, and priority in shipping space owing to bulk buying by the Imperial Government, that the Federal Government impose an export levy on the favored industries and apply it as compensation to those industries which are being injured by loss of shipping space, etc.**

It is estimated that 1 per cent. on last year's figures would yield £1,000,000, and that owing to the enhanced price of those products this coming year, the amount should be considerably more.

The suggestion seems equitable as it provides that the industries which are benefiting partly at our expense would, to a certain extent, provide a compensation fund.

FERTILISING VALUE OF PASSION FRUIT SHELLS.

The amount of manurial constituents in Passion Fruit waste was recently determined at the Chemist's Branch of the N.S.W. Department of Agriculture. On a dry weight basis, one ton of the material was estimated to contain:—

10 lb. Lime (CaO).
4¾ lb. Phosphoric acid (P_2O_5).
27 lb. Nitrogen (N).
84 lb. potash (K_2O).

MEETING OF STATE FRUIT BOARD — WAR-TIME SHIPPING PROBLEMS DISCUSSED — HOPES FOR REASONABLE EXPORT SHIPPING PROGRAMME — RIGID MARKETING CONTROL AND BOUNTY RECOMMENDED — PUBLICITY NEEDED TO INCREASE AUSTRALIAN FRUIT CONSUMPTION — AMENDMENT OF EXPORT CONTROL ACT TO BE SOUGHT TO PROVIDE FOR REFUNDS TO STATE ORGANISATIONS.

A MEETING of the Tasmanian State Fruit Board was held at Hobart on September 13, Mr. D. E. Ryan presiding. There were also present Messrs. J. R. Abel, R. H. Thompson, C. O. Smith, T. G. Thompson, J. S. Bulman, L. S. Taylor, T. Burnaby, and W. H. Calvert, M.L.C.

War Problems.

The Chairman stated that the Apple and Pear Board was making every effort to secure the maximum shipping space. The Department of Commerce had been advised that a curtailment of space would have a very serious effect on the industry.

On the motion of Messrs. J. R. Abel and R. H. Thompson, it was decided:—

That because of the outbreak of war and the probable curtailment of the export trade, it will be possible to market only a portion of the Australian Apple and Pear crop.

To avoid chaos and to keep the industry solvent, it will be necessary to have rigid marketing control, particularly in the Commonwealth.

In spite of control a bounty will be necessary during the period of war to keep the Apple and Pear and allied industries intact.

The motion was agreed to.

Mr. Mills Appreciated.

An expression of appreciation to the Chairman of the Apple and Pear Board (Mr. J. B. Mills) for the efforts of the Board was agreed to on the motion of Mr. R. H. Thompson.

Requests to the Government.

A deputation waited on the Minister for Agriculture (Mr. T. D'Alton), and stated that though the question of the appointment of a Commercial Officer to develop Eastern markets had been deferred, it was hoped the Government would assist with the needed finance later.

Mr. Abel stated that the Apple and Pear Export Council had refunded to the Board 1-16d. a box from the levy on fruit shipped overseas. The Australian Apple and Pear Board did not have power to make the grant, and the loss of the amount, about £800 a year, would mean a curtailment in the activities of the State Board unless the loss were made up.

The Treasurer (Mr. R. Cosgrove), who was present, said an amendment to the controlling Act would give the Apple and Pear Board power to give the rebate of 1-16d. He suggested that representations should be made to the Minister for Commerce.

Industry "Not in Peril."

Mr. D'Alton said that the Government was considering all phases of agriculture and horticulture in the light of the war situation, **but he did not want it to get about that the fruit industry was already in a position of peril.** It might be possible to overcome many difficulties.

Purchase By Britain.

Mr. Cosgrove said space for the shipment of foodstuffs would be allocated according to their importance to Britain. **Fruit was only eighth on the list of goods.**

The fruit industry must be enabled to carry on, and Federal Ministers had agreed to take up with the British Government the matter of purchasing a certain quantity of fruit from Australia, and of providing space for it.

If a considerable portion of the fruit crop could be sent overseas, it should be possible to increase sales in Australia to dispose of the balance. Much advertising would be necessary.

Mr. Abel said a levy of ½d. was to be collected for advertising.

Allocation of Space.

When the meeting was resumed, Mr. T. G. Thompson moved, and Mr. R. H. Thompson seconded:—

It be a recommendation that allocation of space to growers in Tasmania be strictly on a production basis until the return of normal conditions.

The motion was agreed to.

It was also agreed that the past two years should be the basis in estimating production.

It was also decided to approach the Apple and Pear Council recommending an amendment to the Apple and Pear Organisation Act to enable refunds to be made to State organisations.

REWORKING FRUIT TREES.

Much Activity in Tasmania in Changing Varieties of Apples and Pears.

The Minister for Agriculture (Mr. T. D'Alton) stated recently that owing to the restrictions imposed on export of certain varieties of Apples and Pears to the United Kingdom, many growers are converting varieties to replace those prohibited.

The following is a summary of the work performed since the 1937-8 season:—

Number of Trees Converted.

	1937-8.		1938-9.	
	Apples.	Pears.	Apples.	Pears.
Franklin .	4,495	380	3,590	360
Huonville .	5,172	149	4,500	200
Geeveston .	4,275	50	4,783	186
Cygnet . .	3,002	292	2,170	830
Central . .	1,430	100	2,245	100
S.E. District	2,241	879	2,286	546
W. Tamar	2,021	814	2,790	272
N. East and N. West	1,314	150	1,417	432
Totals .	23,950	2,814	23,781	2,926

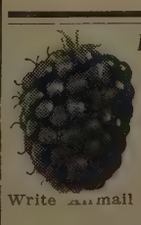
Total: Apples, 80,434; Pears, 5,740.

Mr. D'Alton said he had been advised that the Apple varieties converted mainly comprised French Crab, Ribston Pippin, Alexander, King Pippin, Aromatic, Crow's Eggs, and Scarlet Pearmain.

The popular selections for the change-over were Delicious, Granny Smiths, Jonathan, Crofton, Cox's Orange Pippin, in the order stated.

The Pear Varieties

comprised Duchesse D'Angouleme, Keiffer, Black Achan, Vicar of Winkfield, Beurre Hardy, Lemon Bergamot, and Middleton, **and those selected for conversion were Packham's Triumph, Winter Cole, Winter Nelis, Doyenne du Comice, Josephine, and D'Anjou.**



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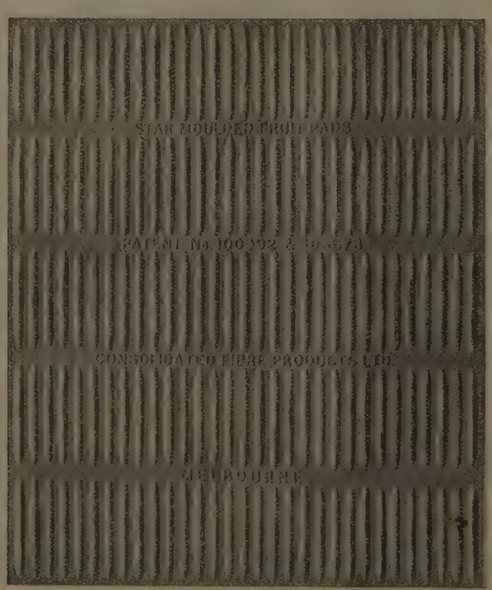

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SIZES:—12 x 6, 13½ x 6, 12 x 14, 17½ x 8, 17½ x 11.

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TASMANIA—(*Continued*)

Cultural Notes

Wet Spring and Danger of Spot Infection :: Re-working Fruit Trees :: Many Pear Varieties are Being Changed Over :: Packing Classes.

THE Minister for Agriculture (Mr. T. D'Alton) is in receipt of the following information from the Chief Horticulturist relative to the condition of orchards throughout the State during the past four weeks.

Weather and Crops.

It is some years since such a prolonged spell of wet cold weather has been experienced during the early Spring months, rain falling almost every day. In consequence bud development has been considerably retarded and blossoming on Almonds, Cherry Plums and Apricots has been much later than for many seasons.

Plums are blossoming well, but Apricots are very patchy, few Peaches are yet in full bloom. Recent high winds and low temperatures have taken toll, but it is yet too early to ascertain the amount of damage accurately. The continuous rain has delayed the completion of pruning, and very little spraying has been possible not only owing to the weather but to the sodden soil conditions.

It should be remembered that such late bud development is usually followed by rapid growth which necessitates expeditious spraying methods if trees are to be treated at the correct periods for effective pest control.

Cultivations, particularly in low-lying areas and heavier soils have been seriously hampered, and this may result in early attacks of black spot owing to spore infection from fallen leaves. Bud development is generally promising.

Records received from the Commonwealth Weather Bureau indicate the position in the main fruit areas. Hobart rainfall 420 points compared with the average of 182 points. Launceston 759 points compared with 293, and Franklin 790 points compared with 307. Maximum temperatures were slightly lower than average.

Pests and Diseases.

THE DANGER OF SPOT INFECTION has already been referred to, and unless conditions improve very considerably during the next week or so, many orchardists may experience considerable difficulty in applying their "green tip" spray, iron sulphide, nitro-caustic, and oil sprays were applied under the worst possible conditions, and it remains to be seen whether they prove effective —the slogan, however, should be that it is better to spray however adverse the conditions, than to omit the treatment entirely. A careful watch must be kept on the development of red spider and mildew later in the season. Most growers have now removed the old codling moth bandages and destroyed pupating larvae — fresh bandages need not of course be applied until the end of next month.

Owing to the uncertainty of present conditions following on the outbreak of war in Europe, and the possibility of restricted shipments of Apples and Pears overseas, many growers are revising their intended programme of work. In their own interests, however, growers should maintain effective control over those pests which rapidly accumulate and are likely to cause orchard deterioration of a prolonged nature. In spite of the heavy Pear crop last season, buds on most varieties look promising. "Green-tip" sprays are already being applied for spot.

Re-working.

Most growers have already commenced grafting on Pears, and in some districts Apples are receiving early attention. **In view of the uncertainty of overseas shipments the time would appear to be opportune for a general clean-up of uncommercial varieties.**

Proposed programmes are heavy, and the demand for scions greater, if anything, than last season. District Orchard Inspectors are rapidly clearing their stocks and only those growers who have already made their requirements known can be supplied. Further experimental trials have been commenced both with regard to refurnishing methods, and the types of wax and other products used for sealing. A number of growers, following recent trials made by the Department, are refurnishing Plums and Apricots on a fairly extensive scale.

Packing Classes.

With the resumption of school after the Winter vacation, packing classes have recommenced in all centres, and pupils are taking the work in earnest, especially with the imminence of the annual competitions for the W. H. Calvert Shield. Dates for the tests are now being arranged with the various schools and arrangements for transport of pupils to the different centres are in the hands of District Instructors.

Apiaries.

The registration of apiaries is proceeding satisfactorily and it is in the common interest of all beekeepers that this should be as complete as possible. Although wattle blossom was heavy and other Spring blossom such as Plum, Apricot, etc., is good in most districts, prolonged cold wet and excessively windy weather has prevented the bees from collecting the usual supplies for early brood, and swarms are still dying off in colder districts. Many owners have resorted to feeding with candy and flour candy and all hives should be watched carefully lest starvation takes its toll. Dry seasons such as last are usually followed by profuse flower production in many perennial honey producing plants, and beekeepers want to be in a position to take advantage of any resultant honey flow.

Primary Producers' Conference

At the recent Southern District Conference of the Tasmanian Producers' Organisation, held at Hobart, the Minister for Agriculture stressed the need for greater co-operation on the part of primary producers.

Among the items discussed was the matter of space allotments, and it was moved that: "The State Fruit Board be requested to ask for the publication of names of all growers and shippers and space allotments for fruit to the United Kingdom, and that the allotment be made a seasonal one instead of from month to month."

Mr. C. O. Smith (Woodbridge) stated he had been horrified at the condition of some of the fruit unloaded at Sydney. It was moved that: "The State Fruit Board be asked to interview the shipping companies interested in interstate trade with the view to obtaining better conditions for the carriage of fruit, chiefly by the provision of better ventilation."

It was also stated that:

"The organisation strongly objects to the present methods adopted regarding the compulsory pre-cooling of Pears for oversea shipments, and suggests that investigation be made by the State Fruit Board to improve matters for the coming season."

It was decided to support the State Fruit Board for the establishment of a Committee of investigation to deal with detention of fruit for technical reasons.

It was also decided to request the State Fruit Board to make further efforts regarding a central sorting shed for the handling of condemned fruit in the coming season.

Citrus News and Notes

The Spanish Orange Industry

Varieties :: Mechanical Treatment in Packing :: Type of Package Used :: By-Products.

By Alfredo Neugarten.

THE FIRST PORTION of this article appeared in our September issue. There Mr. Neugarten gave the history of the development of the Spanish Orange industry, and told about the producing centres, packing, transport, etc.

Continuing, the author deals with

The Spanish Orange Case,

and writes:—

The Spanish Orange case is completely different from any other Orange case in the world. In the earlier times of export, a number of cases were in favor, these held 420 extra large, 420 medium, 714 large and 1,064 Oranges per case respectively. The handling of these cases was not an easy job! their weight was tremendous. For instance a medium case of 420 weighed 3 bushels net, a 714 about 4 bushels and a 1,064 about 5 bushels net. The extra large sizes of each grading number averaged at least one bushel more for each size.

In later years, i.e., before the Civil War, these cases were mostly shipped to Norwegian ports, but in the other consuming countries the clients required more reduced packages in order to get a greater range of sizes in the same quantity of Oranges. The half case was the usual one, containing 200, 240, 300, 390 and 504 Oranges, having an average net content of about 2 bushels a case.

The Spanish Case

was divided into three compartments, giving the case more resistance to shocks when being handled. The packing was done with the stem end of the Oranges together (old Australian square or block pack), thereby creating a ventilation through every layer of Oranges in every direction, in the channels formed near the stem end part of the Oranges. **The pack was a very tight one, so tight even, that the Oranges looked like cubes when taken out after a long voyage.** To avoid blemishes and bruising of the skin when packed in this way, the Oranges were allowed to sweat for a few days after picking.

Before going further into the development of packing methods, it is necessary to give you a short description of the

Spanish Orange itself.

First of all, the Spanish or Valencia Orange has no direct relationship with the well-known "Valencia Late." The Valencia Late owes its origin, I believe, to a selection made in English glass houses on stocks brought over from the Azores and having most probably as its ancestors, Oranges brought over in early days from the Indies to the Azores. This stock or variety was developed later on in the U.S.A.

The Spanish Orange probably traces its origin back to the same Indian variety and there seems no doubt that it underwent various acclimatisation stages before reaching the Spanish soil.

Secondly, soil conditions played an important factor in the development of the fruit. In the very heart of the Spanish Orange producing district, Alcira and Carcagente, there is a complete difference between soils over a distance of less than 5 miles. **This great "variation of soils" condition was the main factor in the breeding of so many different types of Oranges and qualities in the same line of variety.** The great increase in Orange export after the last World War induced planting on soils not suitable really for Oranges, and more particularly on soils which produced only acid fruit with a white and coarse rind. The location in many instances was not of the best as the groves were too exposed and subject to frost damage.

The increase in Orange production and the ensuring decline in values and a most pressing factor, i.e. the competition at the beginning of the Spanish season of seasonable ripe South African and Brazil Oranges and the sweater and better eating qualities of the Jaffa Orange, obliged the Spanish producer to cut out marginal groves or to adapt them in such a way, that he could withstand the competition.

Having so many varieties of Oranges for export was another impediment and this was another reason which more or less compelled growers to change to a system of unification of varieties.

The Washington Navel

proved to give an early crop and fruit of good eating qualities on those marginal plantings.

Since about 1930, an extensive average of groves were grafted over with this variety, to such an extent, that even the packing methods had to be adjusted to suit the changed conditions.

In 1936, about 4 million bushels of Washington Navels were available for export, and these found a ready market all over Europe. Portion of the Oranges were exported in crates by rail to the same markets as fruit exported in half cases by sea. The fruit in the crates looked as natural when it reached its destination as if it had been picked just from the trees whilst the cubical presentation of the oranges in the half cases suffered greatly by comparison.

Packing according to American fashion was the only way to meet the self-competition and the big size of the Washington Navel, generally lent itself to the execution of this viewpoint. **So American packing was introduced,** and the available machinery adapted to get a more correct sizing of fruit, but only the better class varieties were, from now on, packed by the new method.

The development of the

mechanical treatment

of Oranges during packing operations was an astonishingly quick one. The exporters rented a packing shed in one of the villages, where they could acquire the quality and quantity of Oranges to satisfy their requirements and, when they had completed their pack in any given area, they packed up and transferred their operations to another area. In these days they only had to move their skilled workers, some mats and picking baskets.

The good prices obtaining after the Great War induced the grower to heavily fertilise his groves, his object being to increase his production, but unfortunately, the fertilisers were applied unscientifically, and this, in combination with some neglect in combating diseases in the orchards, led to the production of fruit artificially pushed and with less good keeping qualities than before. Oranges arrived with a great amount of waste, especially in the Spring of 1927.

Commercial Methods.

To overcome this loss, some exporters commenced to wash their fruit with some chemicals with such excellent results, that in the following year, a great number of primitive washing plants were erected. The next year brought an increase in the use of the already improved **washing, polishing and sizing machines** to such an extent, that in the years to follow, there was hardly a packing shed without machinery.

Some of the exporters were "specialists" exporting only the very finest qualities obtainable, the balance being left for the rail or boat exporters to handle. The market business was in the hands of a completely different category of tradesmen, who purchased from the packing sheds, the fruit not suitable for export, and in some instances loaded sailing vessels with such fruit in bulk to Southern France ports.

The rail exporters were associated in a syndicate, caring for delivery of trucks and improvement of rates. The boat exporters were bound by rebates to one and or another shipping firm, providing and chartering the boats This is a completely different aspect of the Orange business and is too extensive to be dealt with in this resumé.

Generally, co-operative undertakings for the export of Oranges were hardly in existence, but there were a few organisations formed by religous factions, these, however, were not very much favoured by the individually thinking Orange producer.

The

by-products industry

was still in its infancy in Spain. A few factories were producing Orange oil and others peeling useless rejected fruit and exporting dried Orange peels to Northern European markets.

At the beginning, the Spanish Orange export was mainly on a commission basis. Brokers and auctioneers maintained representatives in Spanish ports, giving advances on shipping documents and advice on shipping opportunity. Later Spanish shippers started to send their sons abroad to be present at the sales of their consignments. Travelling over the whole of Europe, these people got in contact with the more remote markets, contacted business relations and started sales on an f.o.b. basis, sometimes even installing themselves in order to do the distribution of their own fruit. Big fruit importers wishing to have more control over the fruit they desired to import, sent their agents out to Spain and commenced to export themselves and to create big packing organisations to load their own chartered boats.

The strongest competitor to Spanish Oranges was the Palestinian "Jaffa Orange." This Orange is of fairly equal quality, in the average, of bigger size, much juicier, and generally, a better eating fruit than the average Spanish Orange.

At the beginning of a season, this was of paramount importance, as Spanish Oranges used to be, only of a very small size and of great acid content. It was therefore an easy matter for the Jaffa Orange to more than hold its own in open competition with the Spanish, at least, for the beginning of the season.

On the average, the Spanish Orange had to travel about 5 to 6 days to English markets, less than half of the distance of the Jaffa Orange, but with the improvement of shipping conditions, the Jaffa competition had become a menace to the Spanish export trade.

The Spanish Civil War gave the Jaffa shippers an opportunity to introduce themselves. This state of affairs should undoubtedly be changed in the near future, when the Spanish Oranges, now consisting mainly of Washington Navels at the beginning of the season, will be able to compete again in the open market. The advent of the Civil War did not allow us to see the results of the changed Spanish conditions, in regard to re-grafted Orange trees.

We shall assuredly see from now on a struggle between these two countries, who produce Oranges mainly for export; Spain strategically better situated and nearer to the consuming centres, but having a wide range of qualities and a great number of exporters, both obstacles in a successful drive for the conquest of a market, and Palestine having a uniform variety with good quality and **now a sales organisation of co-operating growers, handling more than million cases of 1½ bushels net content,** with the possibility of concentrating their efforts on a few **brands only,** and on the market they deem to be the best.

[Note.—Mr. Neugarten will deal with the growth of the Palestinian Citrus Industry in another article at a later date.—Ed. "F.W."]

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N.S.W. CITRUS CROP CONDITIONS.

IN THE SEPTEMBER REPORT of N.S.W. citrus crop conditions, as given by the Director of Marketing, N.S.W. Department of Agriculture, the following appears:—

Throughout the coastal citrus growing areas of the State the weather generally was unfavorable; strong westerly winds were prevalent, and some heavy frosts occurred early in the month. The need for a substantial fall of rain is apparent, as trees are making fresh growth and are coming into bloom. Inland and irrigation areas experienced good rainfall.

Marketing of **Valencias** was proceeding and generally realisations were satisfactory. Picking for export to New Zealand was in progress on the Murrumbidgee Irrigation Area.

The bulk of Common and Seville Oranges has been disposed of.

There is still a fair quantity of **Mandarins** in a few districts, but much of the fruit is past its prime.

The Summer **Lemon** crop varies, and ranges from light to good.

Murrumbidgee Irrigation Area.

Picking is proceeding for export at Yenda and Leeton. In the former locality, crops are variable and range from light to very heavy. On the average, however, good yields should be obtained, and they will be better than was anticipated earlier. Generally the size of the fruit is good. Harvesting of Common Oranges is almost complete. Some of the Mediterranean Sweets were exported to New Zealand. On the limited areas of Sevilles grown at Yenda, good crops are being carried.

Main crop Lemons are almost cleared. A good Summer crop is to be seen on many orchards at Leeton, but the showing at Yenda is poor, owing to frost damage.

On the

Lower Murray

Irrigation Areas, Valencias are somewhat lightly cropped. Quality will be excellent at Curlwaa and Barham, but damage may be caused by Septoria at Barooga and Pericoota. Lemon crops are looking well, except at Barooga. The light crop of Grapefruit is of good qaulity and realising fairly satisfactory prices.

ORANGES FOR EXPORT.

Amendments to the Exports (Fresh Fruit) Regulations have been notified in the Commonwealth Gazette.

Acting upon advices from the Internal Marketing Department in New Zealand, and with the concurrence of the Australian Citrus Advisory Council, **the concession which permitted unwrapped Oranges to be exported to New Zealand has been withdrawn.**

The regulations defining the respective grade standards have been altered to more clearly express the requirements regarding quality, and now read:—

Special Grade Oranges shall be of high juice content. The skin shall be of good texture and the rind of not more than medium thickness. The Oranges shall be free from malformations, protruding navels, and more than slight creasing at the stem end. Disfigurements caused by scars, scratches and other blemishes not affecting the soundness of the fruit shall not collectively exceed 2½ per cent of the total surface of any individual Orange.

Standard Grade: The skin shall be of good texture and the rind of not more than medium thickness. The Oranges shall be practically free from malformations, protruding navels, and marked creasing at the stem end. Disfigurements caused by scars, scratches, and other blemishes not affecting the soundness of the fruit shall not collectively exceed 10 per cent. of the total surface of any individual Orange.

Good Grade (for New Zealand only): The skin shall not be very coarse of very thick. The Oranges shall be free from excessive malformation, large protruding navels and severe creasing at the stem end. Disfigurements caused by blemishes not affecting the soundness of the fruit shall not collectively exceed 25 per cent. of the total surface of any individual Orange.

THE CITRUS BUD MITE.

Control Methods.

For some years past twisted and contorted shoot growth, together with bunched growth, has been noted on citrus trees in some N.S.W. districts. On close examination, buds at the base of the leafstalks on affected twigs are seen to be marked and discolored. On new growth the buds show sooty or jet black markings on the bud scales, and these markings often extend well into the bud. Affected buds on mature wood are usually blackened and dried out, and at the base of such buds clusters of small adventitious buds occur, and these may be more or less affected.

The Mites, which, it has been found, are responsible for this condition, are microscopic, cream or light colored worm-like creatures which may be found well inside these buds.

Experiments conducted at Gosford (N.S.W.) have shown that complete control was achieved by a programme of lime-sulphur spraying in Winter, followed by a November spray of lime-sulphur at 1 in 50. Unfortunately, climatic conditions caused the death of many Mites, and the experiment could not be continued throughout the following season. However, it would appear that the above is sufficient for control.

FUNGUS DISEASES IN CITRUS.

Control Measures.

BECAUSE THE INCIDENCE of Septoria, Anthracnose, and Brown Rot of citrus trees has been increased by continued wet conditions in many citrus areas in Victoria, the adoption of cultural measures to combat these fungus diseases has been recommended by the Department of Agriculture. These practices should include:—

Careful pruning of citrus trees to eliminate dead and debilitated fruiting wood; the early harvesting of Valencia crops by growers who have experienced Septoria spotting in previous seasons; the destruction of fallen affected fruit and leaves, either by burning or deep burial; and the application of a 3:3:50 Bordeaux mixture, plus half a gallon of white oil, in the early Autumn and, if necessary, in the early Spring. Fumigation should not follow the Bordeaux mixture application within a period of at least four months.

Growers who desire to fumigate with cyanide early in the Summer could use as a Spring spray the zinc-copper-lime formula developed by American citriculturists, the Department states. This spray is practically as efficient as the Bordeaux mixture spray, and tests have shown it to be safer if cyanide fumigation is to follow.

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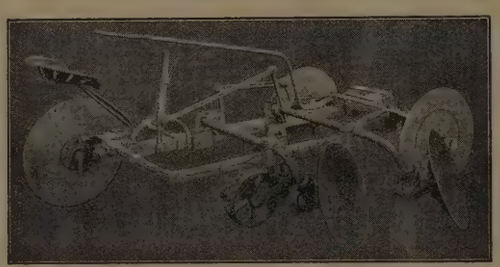

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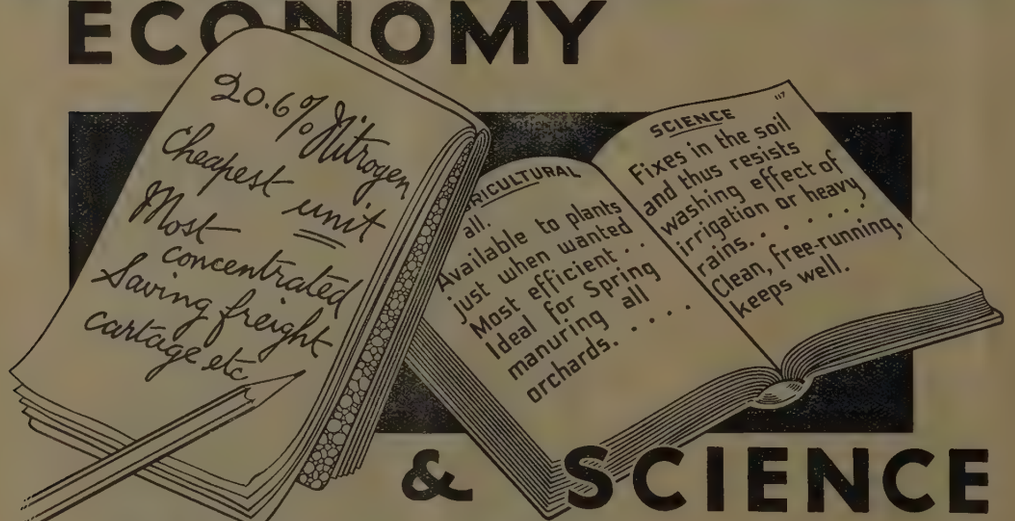
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CITRUS NOTES—(*Continued*)

Citrus Black Spot

THE USE OF WEAK BORDEAUX SPRAYS.

WITH THE OBJECT of controlling Black Spot in Valencia Oranges, the N.S.W. Department of Agriculture has been conducting investigational work continuously for many years.

As far back as 1929 it was found that control of the disease could be obtained by Bordeaux spraying, and it was demonstrated that **the young fruits need to be protected from infection for a period of about twenty weeks after blossoming in October if Black Spot development is to be prevented in the subsequent crop.**

This could be done by applying two sprays of strong Bordeaux (6:6:80), but the difficulty then arose that these strong sprays lead to a very marked increase in Scale insect infestation and to injury to trees and fruits. Further, the soda spray then recommended for White Wax Scale control accentuated the injury which followed the Bordeaux sprays.

Two Important Advances.

Two discoveries have been made within the last three seasons—one relating to Black Spot control and the other to Scale control.

In the case of Black Spot, very weak Bordeaux sprays are used in place of the strong sprays. It is found that these weak Bordeaux sprays, if applied more frequently than the strong Bordeaux sprays employed in the early work, give good control of Black Spot and, at the same time, have not produced any appreciable injury in orchard experiments.

The second advance, due to Mr. P. C. Hely, Assistant Entomologist, is the development of a two-spray oil programme for Scale control to replace the oil-soda spray which has been in general use for many years.

It is believed that the use of these two new programmes in conjunction will reduce the problem of spray injury in Black Spot control to minor proportions.

Black Spot Spray Programmes.

The Bordeaux spray programmes suggested for Black Spot control are either—

(a) Bordeaux 1½:1½:80 applied four times, as follows:—At blossoming and then 5, 10 and 15 weeks after the first spray; or

(b) Bordeaux 2:2:80 applied three times, as follows:—At blossoming and then six and twelve weeks after the first spray.

In both programmes, the initial spray should be applied at the time when most of the blossoms on the northern side of the trees have shed their petals, but before all the petals have fallen from the southern, shaded side of the trees. If best results are to be obtained, it is imperative that this and the subsequent sprays be applied as closely as possible to the times stated above.

The spray must also be applied thoroughly and carefully, since only the young fruits which are wet with spray will be protected from infection. At the same time, the wetting of the fruits is the only object of spraying, and there is no need to spray the interior of the trees. A spreader should be used with the Bordeaux to aid in obtaining coverage, red spraying oil (½ gallon to 80 gallons) probably being the most satisfactory, but some proprietary spray spreaders are also quite efficient.

As an index of the relative effectiveness of the two spray schedules recommended above, the following figures are given. They are the results obtained last season in an experiment in which the two programmes were contrasted in a very badly diseased orchard, Black Spot blemishes only being considered in grading the fruit:—

	Special.	Standard.	Plain.
	Percentage.		
(a) 4-spray programme	66	27	7
(b) 3-spray programme	46	41	13

Oil Spray Programmes.

The two-spray oil programme recommended by the Entomologist is designed to control Purple and Red Scales and Rust Mite, as well as White Wax Scale. The two-spray applications, of white oil (1 in 40), are made about mid-December and mid-February.

The early spray is made when the young White Wax are present in large numbers on the leaves and is particularly valuable for control of this Scale, if emergence is early and uniform, as at this time the majority of the eggs have hatched and wax production has not begun. Whilst it is not actually as effective as the later spray for Red and Purple Scales or Rust Mites, it assists to reduce the infestation of these pests to a stage where they can be adequately handled by the later spray, and also prevents early fruit infestation.

It must be emphasised that, if risk of spray injury is to be avoided, this double-oil spray programme should be used in place of the oil-soda programme for Scale control in all cases where the Bordeaux programme for Black Spot control is employed.

There is a possibility that the white oil sprays for Scale control might be combined with the second and third Bordeaux sprays, thus reducing the number of sprayings in the season. Against this is the fact that the Bordeaux sprays should only be applied to the outside of the trees, whereas the trees need to be sprayed inside and out for Scale control. Further, some deviation from the proper time of spray application either for Scale or for Black Spot control would often be necessary, with some consequent loss of effectiveness. No recommendation can be made in this regard. Further investigations along these lines are at present in progress.—"N.S.W. Agricultural Gazette."

CITRUS BLACK SPOT IN N.S.W.

Full-Time Plant Pathologist Will Conduct Studies.

Owing to the losses in Valencia Oranges due to Black Spot, the N.S.W. Department of Agriculture is conducting some valued experiments.

Owing to the generous action of the Gosford District Agricultural and Citrus Association in donating funds it has been possible for the Department to arrange for full-time concentration of a plant pathologist on this problem.

REMOVAL OF SEVILLE ORANGES FROM TREES.

Under Fruit Fly Control Regulations.

Citrus growers on the Murrumbidgee Irrigation Areas are reminded by the N.S.W. Dept. of Agriculture, that under the regulations governing the control of fruit fly it is necessary to remove all Seville Oranges belonging to the main crop from the trees by September 30. In other parts of the State the date for removal is October 31. This also applies to Beauty of Glen Retreat, Canton or Scarlet, Emperor, Fewtrill's Early, Imperial, Jacob's Special, Oonshiu and Thorny Mandarins.

This is a requirement by proclamation under the Plant Diseases Act, and there are penalties for failure to comply.

VICTORIAN ORANGE CROPS.

The Victorian Government Statist has issued a report stating that the production of Oranges in Victoria for 1938-39 amounted to 700,990 bushels. Of this quantity there were 403,618 bushels of Navels and 206,313 bushels of Late Valencias.

In the 1937-38 season the production of Oranges was 691,563 bushels.

Lemons, Limes, etc., totalled 162,428 cases, as compared with 187,828 in the 1937-38 season.

PRUNING OF CITRUS TREES.

THE ABILITY OF CITRUS trees to produce a satisfactory crop is related to their production of bearing wood. In every citrus growing area there are trees which, for various reasons, are in a more or less weakened state. Such trees cannot be expected to bear satisfactorily.

It is necessary, as far as possible, to remove the cause of the depreciated tree condition, be it insufficient or unsuitable fertilisers, pest or disease, or unsatisfactory drainage, and trees that have been weakened as a result of any of these causes or from reasons not so apparent should be induced—first by removing the cause of the weakness and then by pruning—to produce new growth. During the next few weeks is the most suitable period for this work, particularly if severe pruning is warranted.

The degree of pruning necessary will depend mainly on the condition of the tree; the weaker the tree the more severely should it be pruned. A light skeletonising of the tree and heading-in may be sufficient for trees only moderately weak, but very weak trees should be severely cut back to the main limbs and the weak subsidiary limbs and lateral branches removed.

Lemon trees which have perhaps cropped heavily should be well thinned out and lateral branches shortened; they respond very well to pruning.

Do not fail to supply sufficient fertiliser to trees which are to be severely pruned.

The only exception to these recommendations is the **Emperor Mandarin** when growing in locations where Brown Spot is prevalent. In such instances grafting over the variety should be considered. The scions should be inserted before the tree is headed back in this case to ensure the new variety making good growth as from the time of cutting back.

WASTE OF ORANGES.

Reply by Markets Manager, V.C.C.A.

The Market Manager of the V.C.C.A. (Mr. G. K. Kerr), was recently authorised by the Mildura District Executive to reply to a statement made by Mrs. Hewison, Secretary of the Ministering Children's League, to the effect that the ground in the Orange groves was carpeted with fallen Oranges which were going to waste. Mr. Kerr explained that the crop had been on the light side, and that most of the fruit which fell to the ground was picked up and marketed. There may be individual cases when the fruit was left, but generally speaking any of the fruit which was left had fallen through water and mould infection, and was quite uneatable.

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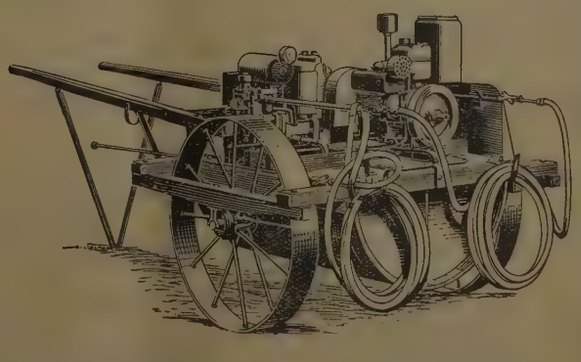

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WALNUTS—A SURVEY OF THE INVESTIGATIONS ON THE PROPAGATION AND TESTING OF WALNUTS.

(By A. W. Witt in Quarterly Journal, 1939.)

THIS IS A BRIEF, concise and very readable account of recent English work on Walnuts at the East Malling Research Station.

Rootstocks.

Juglans nigra is eminently suitable for planting in cultivated land. J. regia is a good stock, but not so suitable for cultivated land. J. Sieboldiana and J. Cinerea appear suitable on somewhat shallow soils for the production of moderate-sized trees.

Budding and Grafting.

Cold wet Summers hinder good take of buds. In other years considerable success has attended ring-budding. Trial is now being made of different times, buds being inserted at fortnightly intervals from the end of May to mid-August into one-year old shoots produced by heading back.

Grafting under glass in March is still the most successful method of propagation. Grafting in July with young leafed shoots also gives good results.

Frost Injury.

This is the chief limiting factor in England. A bad frost during the fortnight between the date when the bud-scales loosen and the leaflets become visible and the earliest subsequent date at which the tree is in full leaf may spoil the entire crop. For English conditions late leafing-out is essential.

Small Garden Trees.

These may generally be obtained as follows—Plant a grafted tree in only fairly good soil. When the young shoots have made 5 or 6 shoots, pinch out not more than 1 cm. from the top of the growing tip with the finger and the thumb. This pinching should be done on all fairly strong shoots throughout the growing season every year. If the tree still persists in excessive growth, lift it in October and replant at once in situ. Varieties recommended for English conditions.

Notes are given on the following suitable varieties:—

1. French - Franquette, Mayette, Meylanaise, Treyve;

2. English—(a) dessert nuts — Excelsior of Taunton, Champion of Ixworth, Stutton Seedlings, Lady Irene, Northdown Clawnut (J. regia maxima); (b) for pickling—Leeds Castle and Patching.

The three following varieties have been collected for their **presumed potential timber value:** Barrington Park, Kashmir A (J. regia Koamina), Lamb (J. nigra).

Cultural notes are also given on pollination features, damage by rooks, abnormal nut development probably due to bad weather in Summer and early Autumn, and transplanting. The roots must never be allowed to dry out. In planting they should be spread with a downward tendency. They may be shortened by cutting, but should never be doubled upwards. Trees of from 1-5 years old are best for planting. The Walnut will usually succeed where the oak does well, but never on a waterlogged soil.

FRESH?

Grocer (making up wholesale order for week): "George, do we want any new-laid eggs?"

Assistant: "No, sir. We have enough in the storeroom for another six weeks yet."

West Australian News and Notes

Western Australian Fruit-Growers' Association

Successful Annual Conference

RECORD PRODUCTION AND EXPORTS — LICENSES FOR EXPORTS — VALUABLE PUBLICITY WORK — MR. G. W. WICKENS APPRECIATED.

THE ANNUAL CONFERENCE of the W.A. Fruitgrowers' Association was held at Albany on August 31 and September 1, 1939, Mr. J. M. Martin presiding.

In the absence of the Minister for Agriculture (Mr. Wise), the conference was opened by Mr. I. Nulsen, Minister for Railways. Mr. Nulsen spoke of the record yields of many varieties last season, and stated that a far greater quantity had been exported in 1939 than in any previous year in the State's history. The quantity of fruit exported in 1939 was 1,457,467 cases, as against the previous highest total of 1,010,920 cases, in 1936. The total quantity of Apples shipped abroad during the season was 1,361,295 cases, including 43,000 cases sent during July and 29,000 cases dispatched to the Eastern States. That exceeded by over 400,000 cases the previous record of 1936; in fact, 25,446 cases more were shipped than the total actually produced in any previous season. It was also, said the Minister, the first season in which a

Record of Varieties

handled had been made.

These comprised no fewer than 32, and seven of the varieties were responsible for 95 per cent. of the total shipments.

Granny Smith variety topped the list, with 329,460 cases.

A Record Pear Crop

had also been garnered in the State, with record shipments of 67,041 cases for overseas. The previous record was 46,986 cases.

Another export record had been established with **Grapes**, the quantity of fresh fruit exported being 84,765 cases, against the previous record of 72,752 cases in the 1937-38 season.

Continuing, the Minister stated that the small outbreaks of Apple Scab and Codling Moth had been controlled. Vigorous efforts were being made to control the Fruit Fly.

Chairman's Address.

The Chairman feelingly referred to the loss sustained during the year by the Association and the industry generally by the deaths of Mr. L. J. Newman, late Government Entomologist, Miss May Holman, M.L.A., and Mr. W. P. Scott, of Bridgetown, a Vice-President and a leading figure in the fruit industry.

In his report of the year's work Mr. Martin expressed sympathy with the Bridgetown growers in heavy losses sustained owing to hail during the season. Thanks were due to the Marketing Committee of the **Apple Sales Board in increasing the consumption of Apples and Pears in the State** with reasonable prices throughout. The Sydney market for such was also improving, and a lot of our output would now find its way there. A small section of growers had not yet learnt their lesson, and followed the practice of holding stocks in the hope of a rising market.

Western Australian growers, continued Mr. Martin, were fortunate this season in being able to place in the export pack 175,000 cases more than their original quota, owing to reverses through seasonal causes met with by Eastern States growers.

Mr. H. Lake (Bridgetown) submitted the financial statement of the W.A. Apple and Pear Growers' Export Levy Fund, which was regarded as highly satisfactory.

Fruit Fly.

Mr. H. J. Price (Karragullen) submitted the annual report of the Fruit Fly Board, which was the subject of a lengthy debate on proposed measures to increase the registration fee on orchards to provide funds for the employment of more inspectors to combat the pest.

Railway Trucks.

At the instance of Mr. H. W. Soothill it was decided to request the Railways Department to provide more covered trucks for the transport of fruit to Albany for export. Each season, he said, revealed the inability of the Department to cope with consignments without the aid of open trucks.

The report of the Fruit Organisation Board was adopted, following explanatory remarks by Mr. Soothill. The latter also reviewed the work of the **Apple Sales Board**, revealing the increasing crops and methods adopted to ensure their consumption.

Publicity Committee.

Great interest was displayed in the report of the Apple and Pear Publicity Committee, in which the many avenues of educational propaganda were detailed.

Mr. Soothill also submitted the annual report of the Apple and Pear Board, which covered expansion of markets, etc. He said a lift of 20 per cent. in Australia's fruit consumption would mean the use of another million boxes. The present consumption in Australia was 5,000,000 boxes annually.

The report was adopted and conference endorsed the suggested levy of ½d. to ¾d. per case for publicity purposes.

Licences for Export.

Conference adopted a series of resolutions submitted by the Executive as follows:—This Association is of opinion that licences should be issued by the Board to fruit shippers. Permits should be issued on behalf of individual growers, to their nominated shippers, subject to growers' reasonable rights of variation. Necessary advisory functions in respect of freight programmes be conducted by a joint committee of the W.A. Fruitgrowers' Association and the W.A. Fruit Shippers' Committee. Necessary advisory and administrative functions in respect of quotas and allocations for individual growers be administered by a joint committee of the W.A. Fruitgrowers' Association and the W.A. Fruit Shippers' Committee, with power to act with regard to principles approved from time to time. Freight allotments as distinct from quota allotments to individual growers be administered by shippers, subject to right of review by the committee. State forecasting and arrangement of shipping programme be handled by the Fruit Shippers' Committee. The background of recommendations of the Executive in regard to the operating of the quota be agreed to. That it be a recommendation to the Executive that the four fruitgrowing members on the Fruit Organisation Board act as the Association's representatives on the joint committee.

Other resolutions adopted included the following:—

Conference considers the only remedy for increasing over production and poor prices for export Apples is the finding of new markets, only obtainable by reciprocal trading with other nations; the alternative being a bounty on all export Apples.

It is in the interests of the industry that sales of Apples in each year between August 1 and February 1 be stabilised, and that the executive take steps to give effect to this resolution.

The appointment of the Metropolitan Market Trust be brought under the notice of the Minister with the object of having it amended and requesting the appointment of two growers' representatives thereon.

The executive be requested to watch the interests of the industry and, if necessary, to oppose any action by the W.A. Fruitgrowers and Market Gardeners' Association or any other body which may approach the Government to bring down a Marketing Act.

Owing to the large stocks of

Inferior Fruit Trees

being brought into the State, especially this season, the Minister for Agriculture be asked to investigate the possibilities of having suitable standards gazetted under the Agricultural Products Act or other legislation to govern the quality, and that strict inspection be enforced at the port of entry.

This conference urge that the words "West Australia" be printed on all wrapping paper for fruit export and that a map of the State be embodied thereon.

(It was stated that this matter was already receiving the attention of the Executive.)

The sum of £50 was voted to the Northern District Council for its proposed publicity campaign. Messrs. J. M. Martin, G. Parke and E. Hester were nominated as a panel from which the Minister controlling the industry will select a successor to the late Mr. Scott, of Bridgetown, on the Apple and Pear Board.

Election of Officers.

Mr. J. M. Martin (Mt. Barker) was again re-elected President, and Mr. E. Hester (Bridgetown) Vice-President. Messrs. J. M. Martin, H. J. Price, E. Hester, G. Parke, and H. W. Soothill were elected to sit on the Fruit Organisation Board.

Mr. Wickens Appreciated.

At a complimentary dinner the Chairman eulogised the services rendered by the Superintendent of Horticulture, Mr. G. W. Wickens (who is shortly retiring), and presented him with a cheque for 50 guineas.

WESTERN AUSTRALIA.

There was a record fruit crop harvested in the Donnybrook and Preston districts (W.A.) last season, amounting to 292,388 cases, of which 165,051 cases were export Apples and Pears, the balance comprising Tomatoes and local market fruit.

From Donnybrook 133,143 cases were handled, of which 68,000 were export fruit.

Argyle was next, with 38,500 (31,500 export), followed by Lowden 23,497 (9,197), Queenswood 21,803 (10,358), Gwindinup 18,035 (13,535), and Brookhampton 17,357 (13,156).

ARGENTINE FRUIT INDUSTRY.

Rapid Increase of Production and Export.

High Quality Pears, Apples, Grapes, Oranges, Grapefruit and Avocado Pears Are Going Forward.

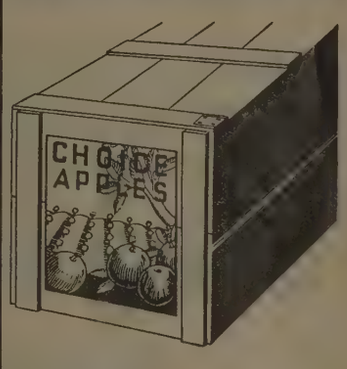
OFFICIAL FIGURES from Buenos Aires on Argentine's fruit exports during the first four months of 1939 show that these have increased by 57 per cent. in tonnage compared with the similar period of 1938, the amounts being 2,746,647 cases, weighing 43,530 tons, as compared with 1,888,496 cases weighing 27,636 tons.

The principal varieties of fruit shipped were Pears, Grapes, and Apples, and the chief importing countries were Great Britain, France, Brazil and the United States.

If the demand for Argentine fruit continues, the final figures for 1939 are likely to show a still further increase over those for 1938, itself a record year in which fruit exports were up by 200 per cent. compared with 1936.

In England, fruit from Argentine is finding an increasingly ready market (states the "Fruit, Flower, Vegetable Trades Journal," London); we were her second best customer in 1938, and her best in the first four months of this year. **Covent Garden importers consider that Argentine Pears compare more than favorably with those from South Africa**, as do Argentine **Apples**, although smaller quantities of this fruit are imported.

Almeria **Grapes** from Argentine compare well with the South African product, while Argentine **Grapefruit** is said to be as good as that from Jaffa, both in taste and quality. **Oranges** and **Avocada Pears** are also now imported from Argentine in moderate quantities.



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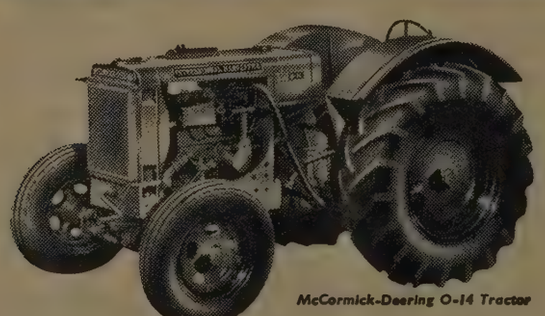

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Dried Fruits News

SOUTH AUSTRALIAN DRIED FRUITS.

Publicity Work Takes Effect.

A MEETING of the S.A. Dried Fruits Board was held on September 20, 1939, when another long agenda was dealt with.

The several recommendations of the Consultative Committee relating particularly to grade standards on dried tree fruits were considered and generally approved.

A matter of interest was the interim report of the Research Officer (Mr. H. K. Kemp) on cultural problems. The report disclosed that the research work was proceeding along satisfactory lines and producing results.

Reports of the Investigation Officers were received, and these disclosed a general improvement in selling methods by retailers in country centres. **The reports also disclosed that heavier stocks were being carried and the publicity work of the Boards was being reflected in the demand generally for higher quality fruit.** Secretary reported that as a result of the Inspector's canvass, a considerable quantity of display material and recipe books had been distributed among retailers and others.

In the matter of door classification the report of the Grader (Inspector J. A. Williamson) on his duties in the Renmark area for the season 1939 was submitted. This proved informative and the Secretary was directed to forward excerpts from the report to the S.A. Dried Fruits Packers' Association, Barmera.

AUSTRALIAN DRIED FRUITS.

1939 Crop Placed.

The Commonwealth Dried Fruits Export Control Board is advised that 5,073 tons of Australian dried fruits were sold in Great Britain for the period August 31 to September 7. At midnight on September 7 the British Government acquired any unsold fruits and further landings based on present market valuations.

The total quantity shipped to Great Britain from Australia was 33,699 tons, of which, including the sales referred to above, 21,036 tons had been sold. The quantity therefore acquired by the British Government is approximately 12,660 tons, to which will be added any fruit subsequently shipped from Australia.

In view of the fact that the total shipments to Great Britain and other markets had amounted to 51,777 tons it is improbable that any considerable quantity remains for shipment to Great Britain.

It will be noted therefore that the whole of the Australian crop has been placed in the United Kingdom, Canada, New Zealand and other markets prior to the acquisition of unsold stocks. The statistical position therefore gives great assurance, and concern will now attach to the problems relating to the next season's production.

BILL TO FIX PRICE FOR WINE GRAPES.

A Draft Bill providing for the registration of growers of wine Grapes has been prepared by the South Australian Parliamentary draftsmen for submission to State Departments of Agriculture. If this meets with the approval of the various States concerned, the Bill will be introduced into their Parliaments in time to be operative for next vintage. The Bill provides for the registration of wine Grape growers, with a view to fixing the prices of wine Grapes.

DRIED FRUITS.

Victorian Board Meets at Mildura.

At a meeting of the Victorian Dried Fruits Board, held at Mildura recently, the matter of increased plantings of dried vine fruits had received considerable discussion.

It was also stated that Tasmania had now been included for the first time in the itinerary of the extensive campaign being undertaken by the publicity committee.

The Board also convened a meeting of graders and supervisors.

The activities of the graders were reviewed, and the general opinion appeared to be that the system had worked with satisfaction, although it was only natural, in such an abnormal season, that there should be differences of opinion. The Board is satisfied that the system has come to stay. It is intended to convene a further meeting later in the year of packers and others engaged in the industry to again review the position.

FOOD VALUE OF DRIED FRUITS.

Fruit when dry is a concentrated food, and a pound of dried fruit is the equivalent of several pounds of fresh fruit, as shown by the following table:—

5 to 7 lb. fresh Apricots make 1 lb. dried Apricots (pitted).

7 to 8 lb. fresh Apples make 1 lb. dried Apples.

5 to 7 lb. fresh Peaches make 1 lb. dried Peaches.

5 to 6 lb. fresh Pears make 1 lb. dried Pears.

2½ to 3 lb. fresh Prunes make 1 lb. dried Prunes.

Dried fruits — including Lexias (pudding Raisins), Sultanas and Currants—are graded before packing. Fleshiness, texture and color are taken into account, besides size, when grading.

(Further Dried Fruit News on pages 25 and 26.)

ADVERTISING AUSTRALIA BY FILMS.

The annual report of the Cinema and Photographic Branch of the Department of Commerce discloses that 13 new black and white and color films totalling 776,546 feet were made during the year ended June 30 last for display in the United Kingdom, New Zealand, Canada, South Africa, the United States, China, Egypt and India, and on some 30 ships making regular voyages to and from Australia. A number have also been supplied to prominent overseas visitors who use them effectively. Four films are now in course of production, to be followed by eight others, including two experimental films in color.

The 16 m.m. size film is becoming increasingly popular throughout the world as an educational medium, and the films in stock deal with many subjects, depicting in an interesting manner various phases of Australian life and development, its industries, its cities, its recreations and its diversified scenery.

CURIOSITY.

A man struck a match to see if the gasoline tank in his automobile was empty. It wasn't.

A man patted a strange bulldog on the head to see if it was affectionate. It wasn't.

A man speeded up to see if he could beat the train to the crossing. He couldn't.

A man touched an electric wire to see if it was charged. It was.

A man cut out his advertising to see if he could save money. He didn't.

Goulburn Valley Notes

CROP PROSPECTS BRIGHT — CANNERIES BUSY — CONTROL OF BLACK SPOT — SPRAYING JOSEPHINE PEARS — CODLING MOTH AND SEPTORIA SPOT — RAINFALL AT DOOKIE AGRICULTURAL COLLEGE — DRAINAGE WORKS AT SHEPPARTON.

(By Our Correspondent.)

PROSPECTS for a good fruit crop in the Goulburn Valley for the coming season are particularly bright.

Apricots blossomed better than they have done for a number of years, and have set a good crop in all varieties.

Canning Peaches are also setting a good crop, with the exception of **Phillip Cling**; a medium crop of this variety is expected.

W.B.C. Pears are just bursting their buds, and the prospects for a good crop of this variety are excellent.

Growers have completed their first spray of 6:4:40 mixture to combat Black Spot at the bursting of the bud stage.

Packham's Triumph Pears are looking well, while **Josephines** will be on the light side.

Plums blossomed particularly well, and there should be a good crop of all varieties.

The weather during September has been pleasant and mild. Flood waters are falling rapidly in the river, and the land is drying out fast.

Ploughing and cultivating is in full swing and everybody is very busy getting the ploughing finished before the ground gets too hard. Most growers are finding the ploughing heavy work. The soil is turning up lumpy and will require a lot of breaking down.

Bright Prospects.

Prospects for better prices in the coming season for canning and jam fruits are bright, as it is expected that all canneries will have clean floors before the new season fruit arrives.

Heavy Shipments.

For the last three weeks the staffs of the Goulburn Valley canneries at Shepparton, Mooroopna and Kyabram have been working double time dispatching canned fruits for the overseas and Australian trade. They expect to have their entire packs sold out before the end of the year. There will be a keen demand for all canning and jam fruits at improved prices over last year's values.

The forecast is based on the clearance of this season's stocks of canned fruits, and the expectation that export prices will be on a higher basis in view of the British Government's purchase plan, and firmer quotations for Californian fruits.

The demand for fruits for jam making is also likely to be heavy in the new season. **Stocks of jam in Australia are stated to be the lowest on record.**

In a circular to district fruit growers from the Shepparton Advisory Committee, control methods for Black Spot and Codling Moth are outlined. Growers are also advised to apply quick-acting nitrogenous fertilisers prior to setting.

Black Spot Control.

Owing to the continued wet weather, the infection of Pears by Black Spot is probable, and control measures are recommended.

For the pre-blossom sprays, apply two pre-blossom sprays to all varieties of Pears (except Josephine) of a 6:4:40 Bordeaux mixture, the first application to be given at a stage when the young folded leaves are protruding through the open buds.

The second application is given when the young folded leaves and closed blossom buds are separating.

Particular attention is drawn to the fact that if a Bordeaux spray of 6:4:40 strength is given and **before the fruit has formed,** the next spray should be given three weeks after the fruit has formed. A 3:3:50 Bordeaux mixture should be applied to all varieties except Josephine, at the same time the second lead arsenite may be applied. It is suggested that orchardists should make up the required Bordeaux mixture and place same on spray tanks before adding lead arsenate.

Josephine Pears.

A pre-blossom spray for Josephine De Malines is a 6:4:40 Bordeaux mixture at an early green tip stage. After this do not use any further Bordeaux mixture sprays.

Cover Spray: Three weeks after the Josephines have formed, apply a diluted lime sulphur solution at a strength of one gallon concentrated lime sulphur to 100 gallons of water. Further applications of this diluted lime sulphur may be applied as required.

It is not recommended to use lead arsenate with lime sulphur solution. It must be understood that the majority of buds in each instance must be at the stage referred to.

Codling Moth Control.

All butts of Apple, Pear, and Quince trees should be scraped this month, and hibernating grubs destroyed.

Septoria Spot on Citrus.

To protect unaffected Valencia Oranges against late attack from Septoria, a spraying of Bordeaux 3:3:50 plus 11 per cent. white oil is recommended.

Fertilisers.

Analysis of soils in other districts have shown a serious deficiency of nitrates owing to continued wet conditions. Any grower contemplating the use of quick acting nitrogenous fertilisers in the near future may achieve better results by applying just prior to setting rather than later in the season.

Arsenate of Lead and White Oil.

The Committee is advised that most growers have taken the precaution, in view of war conditions, of securing supplies of arsenate of lead and white spray oils. Information available indicates that difficulty may be experienced later in obtaining these commodities.

TOMATOES.

The Tomato industry is again to play a big part in Goulburn Valley districts this coming season. Although early ploughing has been delayed considerably, growers hope to begin planting about the end of this month.

View of homestead of Mr. S. Towers, orchardist, Mooroopna, Vic.

Dookie Agricultural College.

The Principal of Dookie Agricultural College, Mr. H. A. J. Pitman, B.A., in his August report to the Council of Agricultural Education, states that rain amounting to 548 points fell on 23 days during the month, making a total of 30.95 inches for the year. **It was interesting to note that the rainfall recorded during the month was more than half that received during the year 1938.**

Drainage Works.

Further drainage works will be carried out in the Shepparton District in the near future. A sum of £2,500 has been allocated for general works, most of which will be used in extending and enlarging No. 4 drain at Nth. Shepparton.

The Shepparton High School drain, which has been a source of controversy for some years, is now almost completed, and should prevent serious flooding in the future.

10-year-old Apricot trees, variety Oullins, in blossom. Note preparations for ploughing with tractor and disc cultivator.

Canned Fruits Exports

MINIMUM PRICES INCREASED.

THE Australian Canned Fruits Board notified on September 15 that it had decided to amend the minimum selling prices for all grades, sizes, and varieties of Australian canned fruits for the U.K. market, by increasing same by 6d. per doz. cans for 2½'s and 3d. per doz. for No. 1's.

The amended schedule of c.i.f. prices is therefore as follows:—

	Apricots.		Peaches.		Pears.	
Grade.	No. 2½'s.	No. 1's	No. 2½'s.	No. 1's.	No. 2½'s.	No. 1's.
Choice	8/–	5/1½	7/4½	4/7	8/7½	5/3
Standard	7/6	4/10½	6/10½	4/4	8/1½	5/–
Seconds	7/–	—	6/6	—	7/7½	—

Marine Freight: Arising from the recent increase in the rate of marine freight on canned fruits from Australia to the United Kingdom, the Board has conferred with representatives of canners, and it has been decided that exporters shall continue to provide on invoices for marine freight at the rate of 50/- per ton E.C., any increase in that rate, wherever occuring, to be for buyer's account.

Canned Fruits Exports

TOTAL 1,299,739 CASES.

A report to hand from the Australian Canned Fruits Board shows the following export statistics as from January 1 to August 31:—

Country.	Apricots. Cases.	Peaches Cases.	Pears. Cases.	Fruit Salad. Cases.	Pine-apples. Cases.	Total. Cases.
U.K.	129,605	691,965	326,679	554	26,343	1,175,146
N.Z.	10,163	29,733	2,029	32	632	42,589
Canada	7,470	31,284	3,048	3,088	19,054	63,944
East	2,163	6,785	4,351	749	38	14,086
Misc.	597	1,156	1,578	65	578	3,974
Total	149,998	760,923	337,685	4,488	46,645	1,299,739

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Previous experience had convinced me that to be really efficient a grubbing machine should have ample power and ropes that will meet the heavy demands required of them. I found that shovel and axe work is very costly either by itself or in conjunction with a machine. The machine that offered these features with a host of others, was **THE "MONKEY" GRUBBER.**

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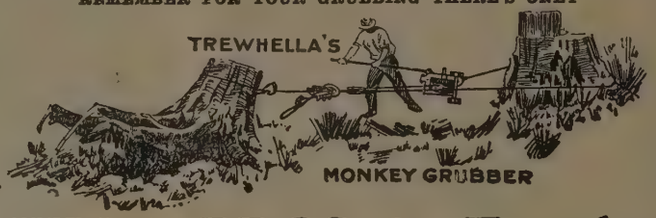

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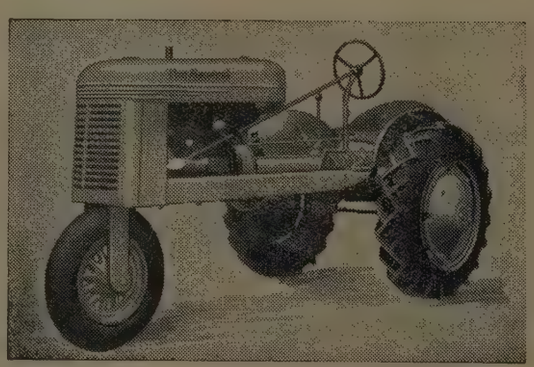

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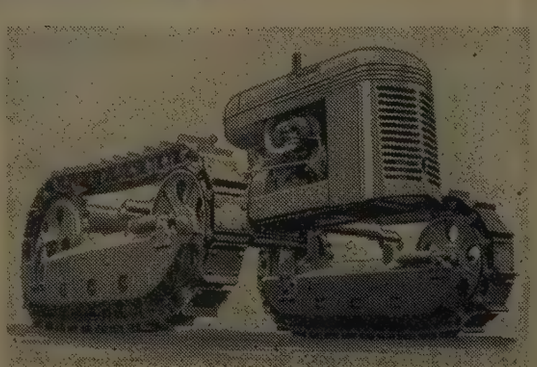

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£25,000 CANNING EXTENSION.

The building extensions forecast at the last annual meeting of the Shepparton Preserving Co., are to be commenced immediately. Plans have been ready for these extensions for some time, but commencement has been delayed owing to the uncertain International situation.

The approximate expenditure on all building extensions will be £25,000.

The new building which will be erected at the Southern end of the company's works will be 345 ft. by 200 ft., and is required for additional warehouse and case factory accommodation. **This extension will increase the warehouse capacity by over 60 per cent. and should be sufficient for the company's requirements for some considerable time to come.** In addition to the extension to the warehouse, the Cool store accommodation at the Packing Shed leased to Messrs. S. J. Perry & Co., is to be enlarged.

It is understood that a quantity of modern equipment, selected by Messrs. A. Perry and K. Weeding, on their recent tour of America, will be installed in the building.

Gas Storage Success.

The experiments in the gas storage of fruits at the Shepparton Preserving Co., proved a great success, but some minor difficulties remain to be overcome, and the system will not be put into commercial operation here in the forthcoming season.

The experiments will be continued.

Mr. J. G. B. McDonald, M.L.A., has released particulars of grants made by the Country Roads Board, for construction works to be carried out in the district during the current financial year, with funds made available under the Federal Aid Roads and Works Agreement.

The grants total £45,730, and with the expenditure by the municipalities concerned, of £11,320. The amount to be spent on road construction in the Goulburn Valley during the year will amount to £57,050.

Included in the grant is £7,400 for repairs to damage caused by the recent floods.

CANNED APPLES.

Activity in Tasmania.

Councillors of the Huonville (Tas.) Council stated at a recent meeting that the fruit industry was the only Tasmanian industry likely to suffer as a result of the war, but there should be a good demand for canned fruits. Efficient canning plants were now operating in Tasmania, and growers should make every endeavor to secure shipping space for canned cargoes.

Cr. A. C. Parsons moved: In view of the intimation of the British Government that it will need adequate supplies of Australian commodities, the State Fruit Board be requested to take steps for the canning of surplus Tasmanian Apples.

The motion was carried.

On the motion of Cr. H. G. Heron, it was decided to request the State Fruit Board to urge the Federal Government to ensure that orchardists were assisted in their endeavors to keep the fruit industry going.

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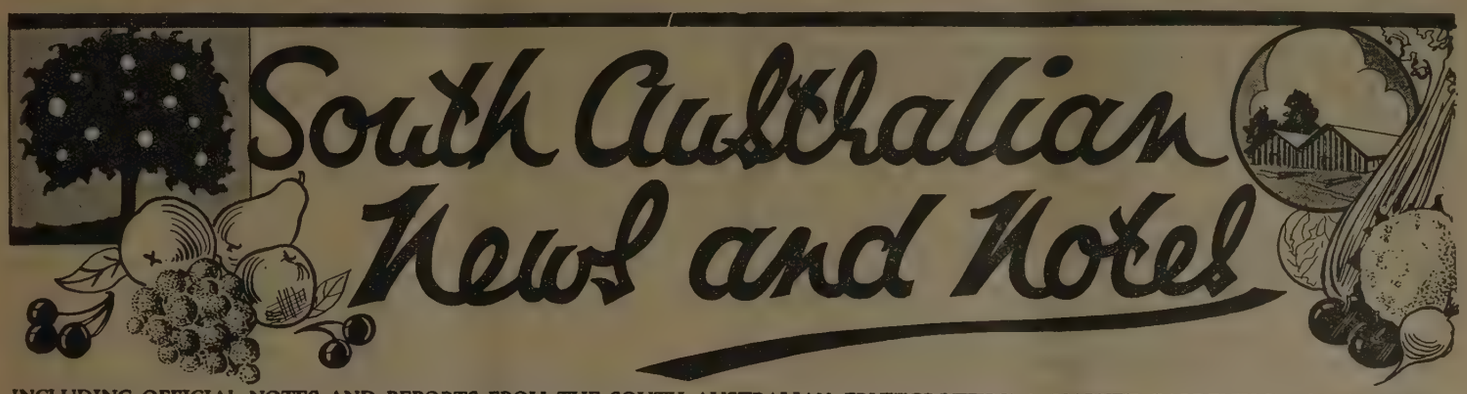

INCLUDING OFFICIAL NOTES AND REPORTS FROM THE SOUTH AUSTRALIAN FRUITGROWERS' & MARKET GARDENERS' ASSOCIATION.

S.A. Fruitgrowers' and Market Gardeners' Association

Meeting of Executive Committee

THE Executive Committee of the S.A. Fruitgrowers' and Market Gardeners' Assn. Incorp., met in the Board Room, 288a Rundle-street, Adelaide, on September 29, 1939, at 10.30 a.m.

Present: Mr. W. J. Bishop (President), Messrs. C. H. Ragless, F. A. Wicks, C. J. Pitt, A. O. Petersen, H. N. Wicks, H. B. Robson, E. L. Giles, H. W. Parsons, C. Ridley, G. H. Schultz, J. Turner, N. T. Hobbs, A. J. Hollister, W. H. Ind, J. B. Randell, L. J. Wicks and Secretary.

Apologies: Messrs. F. Hughes, N. Edwards, G. T. Pitt, C. Stanford, and M. Packer.

Minutes of last meeting confirmed.

Correspondence: Hon. T. Playford, Hon. A. P. Blesing and Mr. W. J. Spafford, concerning annual conference.

Department of Agriculture, submitting figures of fruit held in cold store as at August 31, 1939.

Resolved that the correspondence as read be received.

Noxious Weeds: Discussion on the Act relating to the control of weeds led to the carrying of a motion by Messrs. J. Turner and H. N. Wicks: "That the Minister of Local Government be asked for information concerning the Noxious Weeds Act."

Gardeners' Employees' Union: Mr. A. O. Petersen reported that certain absurd and damaging statements had been made through sections of the press and radio concerning the average wage and conditions of garden employees. He considered that such statements should not be allowed to remain unrefuted. It was decided to defer the matter for discussion at the Conference in the afternoon.

The meeting then resolved itself into the annual meeting.

Annual General Meeting

THE Annual General Meeting of the S.A. Fruitgrowers' and Market Gardeners' Association Incorp. was held at 11 a.m. on September 29, 1939.

Present: Mr. W. J. Bishop (President), Messrs. C. H. Ragless, F. A. Wicks, C. J. Pitt, A. O. Petersen, H. N. Wicks, H. B. Robson, E. L. Giles, H. W. Parsons, C. Ridley, G. H. Schultz, R. Hunter, R. Fowler, L. J. Wicks, J. Turner, Geo. Quinn, N. T. Hobbs, A. J. Hollister, F. Rowley, M. J. Vickers, R. A. Cramond, W. H. Ind, and Secretary.

Apologies: Messrs. F. Hughes, N. Edwards, G. T. Pitt, C. Stanford and M. Packer.

The President extended a welcome to members present at this the 39th Annual Meeting of the Association. It gave him pleasure to welcome Mr. Geo. Quinn, who until five years ago was Chief Horticultural Advisor, and who had consented to be present at the meeting to formally declare it open. Another visitor whom he was pleased to welcome was Mr. Rodney Fowler, officer in charge of the Government Experimental Orchard, at Blackwood. The President then asked Mr. Quinn to declare the annual meeting open.

Mr. Quinn: Mr. Quinn stated that it was just five years since he shed the mantle of responsibility after 40 years of service as Horticultural Advisor. Since his retirement he had rather forgotten the vagaries of fruit problems, but he had taken the invitation to open the meeting as a friendly gesture and for that reason had accepted. His presence also enabled him to meet again many old friends.

He recalled many co-operative efforts which had petered out, principally for the want of the real co-operative spirit, but the S.A. Fruitgrowers' and Market Gardeners' Association, which had risen through stern times, was based on true co-operative lines.

Twelve years ago the Association, with a then small membership, conceived of the idea of handling by co-operative efforts its own export. The Tomato Section was the first to attempt this by the appointment of a representative in the Melbourne market, and the formation of a Sectional Committee to arrange freighting and other matters. The Celery Section followed the lead of the Tomato Section, and then followed the Cherry Section. To-day these sections are thoroughly organised, and the setting of a high standard for their produce has resulted in S.A. produce being sought after in every town of importance in Australia.

Mr. Quinn said he was amazed at the annual export through the Association channels, despite considerable opposition.

He congratulated the Association for the ready assistance given the Department at all times for the combating of problems such as codling moth, black spot, pink rot, etc. This assistance was assisting in no small way in putting quality produce before the public. He exhorted the growers to always adhere to quality produce because nothing was cheap if not of good quality, and the ultimate result invariably reacted to the detriment of the seller. Mr. Quinn said he was pleased to learn that Apple growers were not only commencing to export their own fruit, but were attempting by means of price fixing, to establish a stable market locally. The elimination of the Williams Pear from the export list he considered was likely to be a serious blow to S.A. growers. There was a big acreage of this variety in S.A., and the only outlet left for the disposal was drying or canning. This variety dried, he continued, was not popular, and the grower was at the mercy of the canner as regards prices. Previously S.A. had exported Williams at a payable price. He regretted the decline in the growing and marketing of kitchen Apples. The narrowing down of export varieties had left the public with many export varieties for cooking purposes. Mr. Quinn considered that there was room for reduction in the export varieties, but felt it was possible to overstep the mark in this direction. "The point to be considered," he said, "was that each district growing Apples required a fair number of varieties suitable to the district, but now the time is coming when growers and politicians will only know eight or ten varieties of Apples and Pears.

In concluding, Mr. Quinn thanked the Association for the opportunity of being present, and in declaring the meeting open wished all a successful day's deliberations.

Minutes: Minutes of previous annual meeting read and confirmed.

President's Report

Gentlemen,

A review of the year's activities indicates a season of normal progress.

Our Association is firmly established and accepted as the organisation representative of the whole industry. Consequently, reforms, which once upon a time seemed impossible of attainment now take place as ordinary routine work.

We have no sensational achievements to report while on the other hand there were no occasions when our efforts failed to obtain results.

The Water Committee were instrumental in having the flow of the Torrens extended to October 15, thereby giving an extra fifteen days flow. Several flushes were let down during critical periods bringing much needed relief to certain growers. Growers on the Western side of the City have also been served by releases from the Torrens Lake.

Opposition to the proposed National Insurance Scheme has been consistent. Representation was made through our Insurance Company, the General, to have Hail Insurance reinstated. The outcome was that our fruitgrowing members are the only ones in the Commonwealth who can secure this form of Insurance.

A definite bid was made to gain grower control of the Apple industry.

The Association's nominee was selected as the growers' representative on the Federal Apple & Pear Export Control Board, and the time must come when the Apple and Pear growers will fall into line with all other exporting sections of the Industry and use our machinery for the control of the whole of their business.

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A successful venture into Apple export was undertaken last season and we see no reason why this phase of our activities should not expand to the extent it has in certain other sections. The price ticket for Apples—also those dealing with Tomatoes and various soft fruits—has given general satisfaction, and is a service that is now taken for granted. We hope to soon extend this service for the benefit of Potato and vegetable growers.

The market reports published in the press are supplied by our Secretary and have satisfied a long-felt need for an accurate report of trading conditions and prices.

Preliminary steps have been taken to organise the Potato industry. A Federal scheme had been mooted advocating a marketing board, a fixed minimum price and restricted plantings for Potatoes. This was successfully opposed by Mr. C. J. Pitt, the S.A. delegate, whose two trips to Melbourne were mainly financed from our Association funds.

A River Murray organisation of growers, styled the Loveday Annual Licensed Blockers have affiliated with us, and groups from Angaston and Nuriootpa are waiting a favorable opportunity to do likewise.

The main exporting sections—Tomato, Celery and Cherry—have all enjoyed successful seasons and a beginning was made by the Soft Fruit Section with the export of Peaches and Nectarines.

Various trophies have been donated for Apple packing, and the Association has been represented at several shows, also at the Torrens Valley School Exhibition at Paracombe. Another happy visit was on the occasion of the annual meeting of the Marion Branch. An itinerary was

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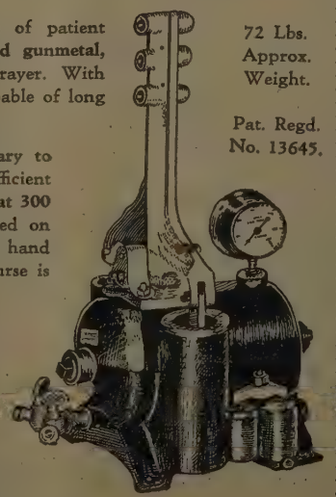

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S.A. Fruitgrowers' and Market Gardeners' Association Incorp.

(Continued.)

suggested for a trip by a visiting party of Tasmanian Potato growers and a personally conducted tour was much appreciated by them.

We are extremely sorry to have to record the loss by death of two men who took a prominent part in last year's conference. Mr. I. R. Adams —delegate for the Marion Branch— and Mr. C. A. S. Hawker, late member for Wakefield, were two supporters our industry could ill afford to lose. We still gratefully remember their efforts on our behalf.

Death has also removed another figure very closely associated with our activities in the person of the late H. J. Bishop. I mention this mainly because individual members of our organisation generously subscribed to a memorial shortly to be unveiled in his memory.

Our membership is gradually increasing. I might confess that I had visions of the total reaching the 1,000 mark during my term of office. It is still a long way short of this, but it is a goal which is possible of achievement and something to earnestly strive for. I must take the opportunity to criticise a fairly large proportion of our members, in fact about 50 per cent. of them, for their neglect to support the Society, our trading section.

This phase of our activities is absolutely essential for the well-being of our industry. It is sponsored and controlled by the Association, yet it is left to a comparatively few loyal stalwarts to keep it functioning. The very fact that it is in existence makes it a controlling influence in our buying—a state of affairs by which every grower benefits. Surely then it is not too much to ask every member to actively support it.

In conclusion I wish to pay a tribute to the loyalty and assistance of the staff, the members of the executive, and the various committees. In Mr. Stuart we have a Secretary who is a definite asset to our industry, and one who realises the tremendous possibilities in front of us. My great hope is that our future development will keep pace with his increasing ability and ambition to manage an association that is really worthy of our great industry.

Election of Officers.

For Season 1939-40.

President: H. N. Wicks, Esq.
Vice-President: C. J. Pitt, Esq.
Past President: W. J. Bishop, Esq.
Executive Committee: Hon. T. Playford, Messrs. N. T. Hobbs, A. O. Petersen, R. A. Cramond, J. B. Randell, L. J. Wicks, C. W. Giles, R. Hunter, W. H. Ind, J. Turner.
All officers were elected unapposed.
Auditor: Mr. S. R. Hosking.

Financial Statement: The Secretary presented a statement of receipts and payments covering the financial operations of the Association over the past twelve months.

The President formally moved the adoption of the President's report and the financial statement. Mr. A. O. Petersen seconded the motion, which was unanimously carried.

Mr. C. W. Giles: The President reported the illness of an Executive Committeeman (Mr. C. W. Giles), but was pleased to report a steady recovery. He moved "That a letter be forwarded to Mr. Giles expressing regret at his illness, and the hope of a speedy recovery." Seconded Mr. C. Ragless. Carried.

Sectional Reports: Reports covering the year's activities were received from the Apple and Pear, Tomato, Celery, Cherry, Soft Fruit and Potato Sections, also reports from the Marion Branch and Fruitgrowers' and Market Gardeners' Society Ltd.

Appreciation: Messrs. W. H. Ind and N. T. Hobbs moved a vote of thanks to Mr. G. Quinn for his opening address and continued interest in the doings of the industry. Carried with acclamation.

Mr. L. J. Wicks spoke in glowing terms of the invaluable service rendered the Association and industry generally by the retiring President, and moved: "That a minute expressing appreciation of Mr. W. J. Bishop's services be placed on record." Mr. C. J. Pitt seconded the motion which was carried unanimously and with acclamation.

Annual Conference

THE Annual Conference of the S.A. Fruitgrowers' and Market Gardeners' Assn. Incorp. was held in the Association Offices, 288a Rundle-street, Adelaide, on September 29, 1939, at 2 p.m.

The ex-President, Mr. W. J. Bishop, occupied the chair, and extended a welcome to the Chief Secretary (Hon. A. L. McEwin), Mr. W. J. Spafford (Director of Agriculture), Mr. L. S. Smith (Secretary to the Minister of Agriculture), and Messrs. E. Leishman and R. Fowler, of the Department of Agriculture.

Mr. Bishop, in introducing the Chief Secretary, who had consented to open the conference, said Mr. McEwin, although not a fruitgrower, was a man of the land, and was therefore well versed in the problems confronting primary producers to-day.

Opening Address by Hon. A. L. McEwin: Mr. McEwin said that he was glad to have the opportunity in the absence of the Minister of Agriculture, to be present at the Conference. The Association was to be congratulated on having attained the 39th year of its existence, which, perhaps was unique for an organisation of its kind. To-day, he continued, the Association is recognised as one of the strongest and most active co-operative organisations of fruitgrowers and market gardeners in the Commonwealth, and has good reason to be proud of its achievements. "I am informed," he said, "that your association is still increasing in membership, and has at the present time a membership of between 700 and 800 members, compared with 70 members 12 years ago."

Of the various sections attached to the Association, the comparatively new Potato growers' Section has held enthusiastic meetings in the Potato-growing districts to improve the various phases of the industry.

To the S.A. Fruitgrowers' and Market Gardeners' Association, much credit is due for the establishment on a firm footing of interstate export trade in various fruits and vegetables.

A commendable extension was made this season by the Association in exporting Apples to the United Kingdom, and furthermore appointing representatives there to handle the fruit, with very satisfactory results. It is pleasing to learn in our valuable export trade of various fruits and vegetables, that 300,000 to 400,000 packages are exported annually through the channels of the Association principally to interstate sources.

S.A. Fruitgrowers' & Market Gardeners' Association
ANNUAL CONFERENCE — *(Continued)*

I believe that the Association will maintain a standard of high quality, and in its efforts may count upon the fullest co-operation and assistance from the Department of Agriculture. Although motives are sometimes misunderstand, it is a fact that the various activities of the Agricultural Department—even inspectional duties—are all directed towards helping the grower.

Investigational work on various fruit and vegetable problems have been extended in the past year; field experimental plots in connection with the control of Codling Moth and Black Spot of the Apple are carried on in a number of representative districts throughout the State, as well as experimental work or storage of various fruits.

In co-operation with the staff of the Waite Institute, the Horticultural Branch is making substantial progress with the various pests and diseases, and particular attention is being given to "Pink Rot" of Celery, "Brown Rot" of Cherries, and Leaf Scorch of Apples.

In due course, results will accrue from these and other investigations, and we look upon the Association as one of those valuable organisations which facilitate contact with growers and the practical application of results of research work.

Competition in the Markets for all sorts of fruit and vegetables becomes keener every year, and the quality as well as quantity must be the key note.

Mr. Strickland, Chief Horticulturist, who is at present abroad, is investigating various problems in the fruit industry, and should return with information which will be of considerable value to this State.

I see from the report of your Association that you are a body which has progressed considerably since its inception. My own desire, and that of the Minister of Agriculture, is to see continued progress, and through the Department of Agriculture assistance to the fullest possible extent.

Therefore, Mr. President, it gives me great pleasure to declare the conference open.

Mr. H. N. Wicks, supported by Mr. J. B. Randell, moved a hearty vote of thanks to Mr. McEwin.

Presentation of Basket: Following the custom of previous conferences, Mr. Bishop made a presentation to Mr. McEwin of a basket of fruit.

Mr. W. J. Spafford: The Chairman introduced Mr. W. J. Spafford, Director of Agriculture, who would address the Conference, his subject being "Weeds."

Mr. Spafford said that in South Australia to-day a constant battle was being waged to keep weeds down. Some of these weeds were increasing rapidly, and were ruining some of the best agricultural ground. Lands which a few years ago were worth £20 an acre, now, through the spread of weeds, were only worth £2 an acre.

To better enable those present to follow his address he handed around copies of Booklets entitled "Important Weeds of South Australia." Parts 1 and 2, by G. H. Clarke, B.Sc., Botanist, Roseworthy Agricultural College.

"Bind Weed," Mr. Spafford said, was well known to fruitgrowers and will in time beat fruit trees. The roots of this weed go down to considerable depths and will travel feet underground before coming up to the light. It can, however, be controlled by persistence with sodium of chlorate.

Mr. C. H. Ragless: "Sheep will eat it."

Mr. Spafford: "Perhaps, but sheep are not a very handy animal in a market garden."

Nut Grass: Nut Grass, continued Mr. Spafford, was another weed causing concern, and spread more rapidly from seed than from tubers. Another troublesome weed was Couch Grass, but this can be eradicated by persistance provided it is not topped but cut below the surface, and the ground cultivated during the Summer months.

From the State point of view the four most troublesome weeds are:—(1) Cape Tulip, (2) Hoary Crest, (3) St. Johns Wort, (4) Bind Weed.

Cape Tulip, stated Mr. Spafford, is easily the worst weed we have, and at the present time is spreading rapidly. It is, however, easily kept under where the land is regularly cultivated. It is lowering land values wholesale, and is poisonous to stock. Lands that were once carrying 2 to 6 sheep per acre are now, through the spread of this weed, carrying ½ sheep to the acre. Hoary Cress is terribly hard to kill, for cultivating does not affect it in the slightest. It has the effect of keeping down feed. In Victorian farming lands this is perhaps the worst weed they have.

St. John's Wort is a beautiful plant, but grows to the total exclusion of pastoral land.

Bathurst Burr is another troublesome weed in the pastoral country, and lowers the value of wool. It is now costing the State a good deal of money. Wild Onion has been known in S.A. for 50 or 60 years, but recently has taken a new lease of life, and is spreading rapidly in lower rainfall areas. It is easily killed with cultivation, but if left to spread displaces pasture plants.

False Caper and Horehound were two other nuisances, the former grows in sandy soil, and the latter thrives in limestone and the better rainfall areas.

Apple of Sodom can be a nuisance, although it does not spread at all rapidly.

As means of eradication sump oil will kill any weed, and such treatments as arsenic, sulphuric acid, sodium of chlorate, etc., will have an effect, but the only other means is by hard work, for persistence in this direction will discourage growth and ultimately kill it.

Weeds are playing havoc with our economics, concluded Mr. Spafford, and everyone will be doing the State a service by stamping out any of the weeds known to be menacing the country.

Thanks: Mr. J. B. Randell, supported by Mr. R. Hunter, expressed the appreciation of the gathering to Mr. Spafford for his interesting and helpful address.

Suggestion of Autumn Show: Mr. G. B. Ragless brought for discussion the suggestion of the Association organising an Autumn Show because the Royal Show conducted in September is held at the wrong time of the year to permit of a display of fruit and vegetables at their best.

Mr. Ragless said that he had arrived at the idea prior to the outbreak of war, which might now react against such a proposal. However, as a basis for discussion he suggested that: (1) Show take place early in March; (2) venue to be Adelaide Town Hall; (3) Open on a Friday afternoon and night and all day Saturday.

It was resolved that the Conference discuss the possibility of conducting an Autumn Show.

Mr. G. Jennings: "This matter has been before the Royal Show Society recently. The Royal Society some years ago held an Autumn Show, but owing to the lack of support was discontinued. Owing to the present crisis it would be unwise to proceed in the matter."

Mr. J. Turner: "With dark days ahead of the Apple growers, I think such a show would be an excellent idea of advertising to increase consumption."

Mr. C. Ragless: "I suggest that matter be held in abeyance until the war is over, and then investigate the possibilities.

Mr. L. J. Wicks: "I consider the suggestion an excellent one, but the whole trouble of such a venture would be finance. Past shows of this description did not pay financially, despite the fact that the display was equal in quality to anything in the world. However, the idea should not be condemned, but thoroughly investigated from a financial viewpoint."

Mr. G. Jennings: "If the Association at some future time sees the possibility of successfully organising an Autumn Show it should seek the co-operation of the Royal Show Society."

It was resolved that the matter be referred to the Executive for consideration at some future period.

Mr. H. P. Tilley: Mr. H. P. Tilley spoke on co-operation and how it can be successfully applied. He gave instances of the success attained by co-operative organisations along the River Murray. The four vital points for successful co-operation were:—(1) Financial standing; (2) service; (3) efficient management; (4) loyalty of members.

Mr. L. J. Wicks and Mr. N. T. Hobbs thanked Mr. Tilley for his informative address.

Employees' Union: Discussion took place on the statements recently made in the press and over the radio concerning the wages and conditions of garden employees. The statements were considered a reflection on the industry, and should be refuted.

Mr. N. T. Hobbs moved "That the statements be contradicted in the press report of this Conference." Seconded Mr. W. Ind. Carried.

Resolution: Resolved that the following resolution be published in conjunction with the report of the Conference: "That this Conference of fruitgrowers and market gardeners repudiates the statements recently made public through certain sections of the press and radio relative to the average wage and conditions of garden employees."

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Conference Dinner

THE most successful dinner ever held in connection with the Annual Conference was held at the Arcadia Café, King William-street, Adelaide, on September 29, 1939 at 7 p.m.

Over 90 people sat down to tastefully decorated tables, and the evening passed without a hitch.

Included in those present were the following visitors:—The Premier of South Australia (Hon. T. Playford), The Chief Secretary (Hon. A. L. McEwin), Mr. H. H. Shannon, M.P., and Mrs. Shannon, Mr. W. J. Spafford (Director of Agriculture), Mr. R. Fowler (Government Experimental Orchard), Mr. E. Leishman (Chief Fruit Inspector), Mr. Hackett (Manager, Rundle-street Branch, English, Scottish and Australian Bank), Mr. L. S. G. Sumner (Secretary, East End Market Coy.), Mr. H. Trotter (Chairman, Fruit and Produce Exchange), Messrs. W. Nicol and G. A. Collett (President and Secretary Hills Gardeners' and Market-men's Association), Messrs. L. J. Bishop and R. Hayman (Wholesale Fruit Merchants' Association of South Australia), Messrs. J. B. Randell and E. W. Mills (Chairman and Secretary South Australian Fruitmarketing Association), and Mr. Geo. Quinn (Ex-Chief Horticultural Advisor).

The innovation of admitting ladies to the function proved successful, and was much appreciated by the wives and friends of the members.

The following toast list was submitted:—

The King—Parliament: Proposed by Mr. C. J. Pitt; response—The Premier.

The Association: Proposed by Mr. Geo. Quinn; response—Mr. W. J. Bishop.

The Returning President: Proposed by Mr. L. J. Wicks; response—Mr. W. J. Bishop.

The New President: Proposed by Mr. J. B. Randell; response—Mr. H. N. Wicks.

The Visitors: Proposed by Mr. G. J. Strange; response — Mr. H. H. Shannon, M.P.

At the conclusion of dinner an instructive and entertaining talking picture of one and a half (1½) hours was given by Mr. H. N. Wicks.

This programme was greatly appreciated by those present, and Mr. W. J. Bishop thanked Mr. H. N. Wicks for making it possible.

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The Tie That Binds

APPLE PACKING COMPETITION AT ADELAIDE ROYAL SHOW.

For competition in the Apple Packing Contests at the recent Adelaide Royal Show, the Association donated trophies for the Senior and Junior Sections.

The winners were:—Senior: Mr. C. Williams, c/o Mr. H. E. Austin, New Market, Adelaide. Junior: Master G. M. Leuders, Lenswood.

Arrangements are being made for presentation of the awards at an early date.

FRUIT IN COLD STORE IN SOUTH AUSTRALIA.

The Department of Agriculture advise the following figures of fruit held in cold store as at August 31, 1939:—

Apples	99,162 Cases
Pears	516 Cases
Quinces	3 Cases
Total	99,681 Cases

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South Australia

South Australian Fruit Marketing Association

BOUNTIES FOR PRIMARY INDUSTRIES — PUBLICITY — CONTINUANCE OF APPLT AND PEAR COUNCIL — PROPOSED APPLE POOL — SERVICES OF PACKING AND GRAFTING INSTRUCTOR NEEDED.

The monthly meeting of the Executive of the S.A.F.M.A. was held at Adelaide on September 22.

There were present: Messrs. J. B. Randell (Chairman), H. N. Wicks, A. Brealey, F. Rowley, W. F. E. Smith. J. H. Dunning, D. Norsworthy, R. G. Hannaford, R. A. Cramond, M. G. Basey, A. R. Willsmore, F. F. Redden, P. R. B. Searcy, G. Quinn, S. M. James, E. Leishman, H. M. Charlick, F. B. James, M. J. Vickers, and the Secretary.

Correspondence: Letter dated August 30, from Consolidated Fibre Products Ltd., advising despatch of sufficient "Star" Moulded Fruit Pads to pack several cases of Apples.

Four cases of fruit which Mr. L. J. Bishop had kindly had packed were submitted for the inspection of members, and it was decided to place these cases in cold store until the next monthly meeting when a further inspection would be made.

Letter dated September 14, from Fruit Exporters Handling Committee, Melbourne, enclosing copy of letter which had been forwarded to the Prime Minister, with regard to freight, etc., for the coming season.

The Secretary was instructed to write the Premier of S.A. pointing out the serious position in which the industry would be placed if no freight were available for the coming season and asking him to do everything possible to assist the industry in this matter.

Letter from the Victorian Fruit Marketing Association, dated August 24, enclosing copy of letter that had been sent to the Federal and State Members of Parliament for Victoria on the subject of bounties for primary industries.

The Secretary was instructed to write the Prime Minister affirming the principle set out in the V.F.M.A.'s letter, viz., "That financial assistance to exporting primary industries and the stabilisation of such industries is a Commonwealth responsibility."

Letters from the Australian Apple and Pear Council dated:—

September 18, enclosing cheque for levy due to this State on 296,988 cases Apples and Pears shipped to the United Kingdom and Continent during the past season.

August 30, advising that in regard to the sum of £1,500 advanced by the Apple and Pear Council for the continuity of Apple and Pear Publicity and Propaganda, it had been finally decided by the Board to allow all the funds collected by levies for 1939 season to flow through the Council, thus allowing the Council to become responsible for the £1,500 spent on publicity and asking for the acquiescence of this Association in this action.

It was unanimously resolved: "That the action taken be approved."

September 4, enclosing copy of report of the recent Empire Fruits Council Conference, together with summary by Mr. Everard Ross, who was the Council's representative at the Conference.

September 4 and 19, advising that the Apple and Pear Council Conference and Joint Meeting with the Apple and Pear Board originally arranged for October 3, had been postponed for approximately one month, and asking for items for the agenda, if any, and the names of the delegates.

It was unanimously agreed that Messrs. J. B. Randell and P. R. B. Searcy be appointed as delegates.

Continuance of Apple and Pear Council.

In view of the possibility of the Apple and Pear Council going out of existence in the near future, this matter was further discussed, and on the motion of Mr. H. N. Wicks, seconded by Mr. R. G. Hannaford, the following resolution was passed:—

"That this Association does not approve of the complete abolition of the Apple and Pear Council until some other means of collaborating and co-ordinating the work of the State organisations is brought into being."

Annual General Meeting.

It was resolved:—

"That the annual general meeting should be held on November 24, the ordinary monthly meeting of the Executive Committee to be held on the same day preceding the annual meeting."

Research Sub-Committee Report.

Mr. H. N. Wicks reported that the Research Sub-Committee had passed the following resolution:—

"That this Committee recommends the Executive Committee to approve of the Growers' Marketing Committee arranging an interview with Mr. G. A. W. Pope to discuss the Apple Pool scheme that operated during the last war."

The resolution was approved and the Secretary was instructed to arrange the meeting.

Another resolution passed was:—

"That the Executive Committee be asked to approach the State Government with a request that the services of the Packing and Grafting Instructor be retained."

After discussing this matter it was resolved:—"That Messrs. J. B. Randell, M. G. Basey, F. F. Redden, A. Brealey, be appointed as a deputation to wait on the Premier, with a request that the services of the Packing and Grafting Instructor be retained at least during the grafting season."

HUGH HAMILTON RETIRES FROM VACUUM OIL CO.

THE retirement is announced of Mr. H. Hamilton, chairman of directors of the Vacuum Oil Company Pty. Ltd.

Born in Lanarkshire, Scotland, Mr. Hamilton came to Australia nearly 40 years ago. Shortly after his arrival, he joined the Vacuum organisation in Brisbane as a clerk. His promotion was rapid, and in his early thirties he was appointed general manager for the company in New Zealand.

In 1913, Mr. Hamilton returned to Melbourne to a high executive position which led, in 1915, to his appointment to the board of directors of the company. He was elected deputy chairman in 1924, and early in 1938 chairman of directors.

During Mr. Hamilton's 38 years' service with Vacuum, he has seen the oil industry develop from small beginnings into one of the most vital and widely organised industries in the Commonwealth. To the part played by Vacuum Oil Company Pty. Ltd. in this development, Mr. Hamilton has devoted his life's work, and on the eve of his retirement, he can look with pride on a vast organisation which owes no small measure of its success to his high abilities in planning, organising and directing, and his capacity for hard work, which, even in spite of recent ill-health, has stayed with him to the close of his business career.

At Menzies Hotel, on September 29, Mr. C. K. Gamble, managing director of Vacuum Oil Company Pty. Ltd., and Mr. Hamilton's successor as chairman of directors, presided at a farewell dinner tendered to Mr. Hamilton by his fellow directors and chief executive officers of the company.

To commemorate his 38 years' service with the company, and as a token of esteem on his retirement, from Vacuum employees throughout the Commonwealth, Mr. Hamilton was presented with a handsome silver tea and coffee service.

"What time do I have to git to work in the morning?" asked the new laborer.

"Any time you like," responded the farmer, "so long as it ain't later than half-past four."

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BOOKS.

"QUINN'S PRUNING."—A useful handbook on fruit tree and grape vine pruning. 280 pages, well illustrated. 5/3 post free. Secure a copy now from Box 1944, G.P.O., Melbourne, Victoria.

RIVER MURRAY NOTES

FROST PRECAUTIONS — VINES AND TREES SHOWING PROMISE OF GOOD CROPS IN SOME DISTRICTS — SEVERE FROST DAMAGE AT MONASH AND LONE GUM — DANGER OF LEAVING COVER CROPS TOO LONG BEFORE TURNING UNDER — "FENUGREEK" AS A COVER CROP.

(By Our Correspondent.)

Renmark, S. Aust. (21/9/39).

WHEN the twentieth day of September arrives, our thoughts go back to the year when on that date we experienced the most disastrous freeze on record. That was in 1927 and although we have had frosts of more or less severity since then, the date of the great freeze which devastated the whole of the Sunraysia lingers in our memory like a bad dream.

It seems strange that on several occasions since then, a wave of cool frosty weather has occurred on or about September 20. Last night a light frost settled in my locality, and judging from the smoke that drifted over here from the Berri area, it appears that some growers had lit up their oil fire pots. It was at one time believed that a dense smoke would minimise the frost damage, but it has now been learned that to save vines and trees from frost damage, it is necesasry to raise the temperature by using **oil-burning fire pots to the extent of about 60 per acre.**

Certain localities, because of their particular geographical position, are more

subject to frost

than others, and these have sustained loss of crop so often that they are now organised into a frost protection band of growers, equipped with fire pots, frost alarm thermometers and all the necessary meteorological data to forewarn growers when frosts are likely to occur.

The first year, when these committees worked in the Waikerie and Monash areas, the fire pots were lit up when the thermometer showed signs of approaching danger, and in consequence a good deal of oil was burned unnecessarily. With the close study of conditions likely to bring about a rapid fall of temperature, a certain technique has been evolved whereby the pots are not lit up until they will produce the most efficient results.

Mr. L. Maddern, of Monash (who is a brother-in-law of our State Meteorologist, Mr. W. Bromley) keeps in constant touch with Adelaide whenever frosts are likely to happen, and has the warning broadcast over our local station 5RM. By this means growers are warned to "stand by" in times of danger.

There is always a good deal of apprehension until the month of September has passed, and although the frost danger is not completely over by then, there is an easing of tension once we get into October.

It is to be hoped that no frosts will visit us this year as the

Sultana bud burst

has been particularly good. Vines have shot evenly and there are a great many fertile buds showing bunches.

As far back as last May, Dr. Barnard made a very comprehensive microscopical study of the fruiting rods on Sultana vines taken from various irrigation settlements, and predicted that the number of fertile buds was well above the average and that bud burst would reveal a good showing of fruit bunches.

So far, so good, and within the next week or two we should know whether the first hurdle has been successfully negotiated. There are about eight different ways of losing a crop, and fruit growing always put me in mind of a steeplechase with eight hurdles, water hazards, brick walls, etc., all of which have to be negotiated before the fruit enters the packing house or distillery, and we receive the cash note.

Apricot trees are flowering profusely and resemble Almonds in their snowy whiteness, and this gives promise of a bumper crop. Of course lots of things can happen before the crop eventuates, but it is at least heartening to see a very promising start. Of what we can see on the **Currant** vines, there is every appearance, here, also, of a good start. Bold bunches are showing up, and lots of them.

Pears are just opening out and look very promising. On the whole, the season has commenced with every appearance of a good crop showing in all fruits.

The first irrigation

of the season finished to-night, September 21, and occupied just a month. As the River Murray is in flood, the water is beautifully fresh, for which the vines will be devoutly thankful. Seasonal work is well in hand and quite up to date. Cover crops are mostly ploughed under, and it is rare to see one still standing. A recent visitor from the Mildura area commented on the large area in that settlement having cover crops still standing. I think this a great mistake for two reasons. One is that the **danger of frost damage is infinitely greater with a standing cover crop,** and the other is that at this time of the year the **vine needs all the available plant foods it can get** to push on the growth and development of its fruit, and if a cover crop is still growing, the vine is obliged to compete with the cover crop for the available soil nitrates, a condition not at all to be desired.

Furthermore, even supposing the cover crop were put under now—September 21—the process of nitrification will commence almost immediately, provided there is sufficient moisture for the purpose, and in which case the greater part of the soil nitrates will be taken up in the nitrifying process, and the vine will have to go short unless artificial nitrogen is applied in the form of sulphate of ammonia.

Nitrification of the cover crop will probably reach its maximum in late November if it is ploughed under now, and this might easily have a detrimental effect on the setting of the fruit, as, during the setting period it is not desirable to have a large nitrate factor available. We are given to understand that a vine or tree takes up its major nitrate requirements from the time of bud burst until setting time, and if a cover crop is left right up to late in September, there is a danger of the vine getting the available nitrates at the wrong time.

In the Renmark areas the growers aim is to **get the cover crop under by the end of July,** and for several years the Block E and Chaffey Agricultural Bureau ran a series of cover crop contests, and these were judged at the end of July. While on the subject of cover crop, it is interesting to note that many growers this year have failed to put a cover crop in the ditched row in which cuttings are deposited on account of the slight extra cost involved.

This extra cost is a mere bagatelle compared with the benefits derived from the practice.

When **vine cuttings** are placed in a ditch without a cover crop, the only benefit we derive from the cuttings is in the form of additional organic matter when they break down, and possibly a certain quantity of phosphates which are contained in the cuttings.

It has been computed that an average of 8 to 10 lbs. of sultana prunings per vine will add about 1½ cwt. per acre of phosphates, but not in a form readily available to the plant. By planting a cover crop in the ditched row with the cuttings, it not only adds extra organic matter to the soil, but by virtue of the acids it contains help to disintegrate the cuttings more rapidly and could quite conceivably make the phosphates more readily accessible to the roots of the vines.

On digging up cover crop plants placed in the row which had been ditched the previous year, I found the roots had followed the rotted vine cuttings down to the bottom of the ditch, and were feeding on them. The cover crop feeds on the vine cuttings and the vine feeds on the cover crop. There is a tendency in some quarters to throw the vine cuttings on top of the cover crop and then "chew" them all up with a rotary hoe. This is of course a quicker way of disposing of the cuttings, but being left on or near the surface, it takes a long time for the cuttings to become disintegrated, and to my mind is not so effective as putting them in the ditch.

A little while ago I went down to a neighboring settlement, Lyrup, which is one of the original village settlements, established in an endeavor to carry out the ideals of practical socialism at about the time when Renmark and Mildura were started. Although the elements of practical socialism have long ceased to exist, and private ownership of land has met with success, this little settlement grows some fine Gordos and Apricots.

A large proportion of the Gordos are dehydrated into layers and used for desert purposes and are considered equal to any fruit of its kind in the Commonwealth.

Apricots at Lyrup.

My object in going to Lyrup was to see Mr. "Alby" Wright's Apricot trees, having heard of the big crops produced. Mr. Wright's trees were originally planted by his late father over 40 years ago, and when the present owner took over the property about six years ago, he was advised to grub out the old Apricot trees and plant vines. The trees were smothered in black scale, suffered from gumosis and die-back, and were altogether in a bad way, but Mr. Wright had his own ideas on the matter and decided to "give them a go" as he put it. The trees were pruned on the unstopped leader principle, and were sprayed with pale oil in the Winter. A dressing of blood and bone manure to the extent of 5 lbs. per tree was applied in the Winter, and 2½ lbs. of sulphate of ammonia per tree in the Spring, and they commenced to grow. After harvesting his first crop the trees were given another application of 2½ lbs. of sulphate of ammonia to help in developing the buds for the following year's crop. The trees have gradually increased in crop until in 1937 these 5½ acres have produced 12½ tons of dried fruit, in 1938 13 tons, and 1939 6½ tons, and this year promise to beat all records, judging from the fruiting wood, and the way they have blossomed.

What interested me particularly is the unorthodox way Mr. Wright has overcome the incidence of "gumosis" and "die-back." Realising that it was a disease and spreads from tree to tree in some way, Mr. Wright always takes the precaution to **disinfect secateurs** and saw with coal tar when pruning any diseased wood.

A pot of tar and a brush is carried along to each tree while pruning is in progress, and any tree showing

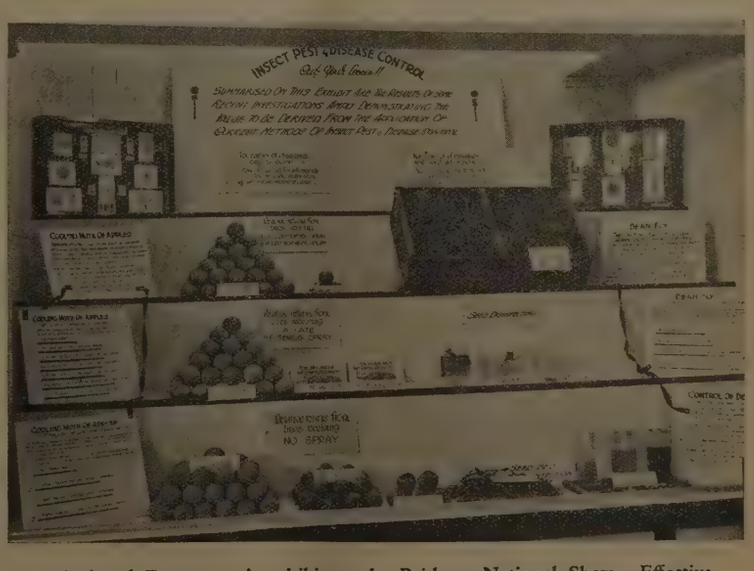
APPLE AND PEAR EXPORTS

Statement by Control Board Chairman.

The chairman of the Australian Apple and Pear Board (Mr. J. B. Mills) recently authorised a statement to the press to the effect that because of the war producers of Apples and Pears and people connected with the Apple and Pear industry must be apprehensive as to the future. However, he wished to assure them that, although the position was serious, it was not without hope.

The problem was not one of markets but of shipping space, he continued, and the Board was leaving no stone unturned in an effort to procure freight. There was reason to believe that at least some success would be achieved.

Mr. Mills added that the Board was also considering means by which consumption in Australia could be increased to dispose of any surplus.



Agricultural Department's exhibit at the Brisbane National Show. Effective field work was the dominant note in this year's display in the Research Division.
(Illus. from Queensland Agricultural Journal.)

signs of gumming is promptly painted over the gum and down the limb a little way. This method of painting over the gum with coal tar has effectively dealt with the problem. All big cuts are also tarred over liberally, in fact Mr. Wright has used as much as 24 gallons of tar in one season.

September 22.—Last night we experienced a

fairly heavy frost,

amounting to 5 degrees on the grass, and 3 degrees on the bottom wire, and in consequence many Sultanas are "cut." As long as we do not get any more the damage is not serious, amounting to less than 1 per cent. of shoots, and this means that the high percentage of bunches now on the vines will not feel the loss of such small proportions.

Hearing that the Berri, Monash and Lone Gum areas had experienced a serious frost for three nights in succession, I took a run down there and found an area of desolation and destruction.

Almost the whole of the Monash area has been completely wiped out. Lone Gum fared little better, and only a small portion in sheltered section remains with a green leaf left on the vines. On the southern portion of Lone Gum, leading into Berri, the vines begin to improve, and there is little evidence of serious loss in this portion of the settlement.

This is the most serious frost since the memorable freeze in 1927. In spite of the fact that oil fire pots had been burned for three nights they were not equal to the occasion. Oil pots will save a crop under conditions of a few degrees of frost for a long duration and a fairly severe frost for a short duration, but on this occasion up to seven degrees of frost was registered on two out of the three nights. A further factor leading to the aggravation of the severity of the frosts is that of their long duration.

In the Renmark area we had five degrees of frost for one night and three degrees on another without occasioning any serious loss, but in the Monash and Lone Gum areas the intensity of the frost on two nights was more prolonged and therefore became more difficult to combat.

While at Monash, a grower who had planted Fenugreek as a Winter cover expressed his dissatisfaction with the result. I planted this legume on 30 acres and will reserve my judgment until it has had another year of trial. In talking the matter over with Dr. Meier (Agricultural Master at the Renmark District High School), he considers that better results might be obtained on the second year, because the soil will have then accumulated sufficient bacteria to properly work upon the plant. It is a well known fact that nearly every legume has its own special bacteria to work upon the roots so as to enable the plants to accumulate nitrogen from the air, and if these are not present in sufficient numbers, then the process is not carried out to the fullest extent.

As a rule a soil contains sufficient of the special bacteria to enable a first crop of legumes to meet with a certain amount of success, but that the second crop is invariably a better one simply through the accumulation of the soil bacteria which specialises in attacking the roots of that particularly legume. Fenugreek, to my mind needs a climate with a wet Winter, and we had a dry one. It was noted that after every shower of rain this plant made considerable progress, and while not advocating it for our areas on the present indications, I would certainly not condemn it without a further year's trial. It has a deeper rooting habit than either Peas or Beans, and contains a very high percentage of nitrogen nodules on the roots, even on the first year's growing. The high cost of Beans has forced the growers in the irrigation areas to look for some alternative legume. If we cannot get a legume then we may have to use a non-legume to supply the soil with the necessary bulk of organic matter and get our nitrogen out of a bag.—Nemo.

AUSTRALIAN DRIED FRUITS

BRITISH GOVERNMENT ABSORBS AUSTRALIA'S SURPLUS.

THE Commonwealth Dried Fruits Export Control Board is in receipt by air mail of the particulars of the sales of Australian dried fruit in Great Britain up to September 7, at which date the Government of the United Kingdom acquired the unsold stocks in Great Britain and afloat. The period covered the fortnight ending September 7, and the sales amounted to 10,121 tons, including 4,551 tons of Sultanas at an average of £38/9/8; 5,454 tons of Currants at £31/1/7, and 116 tons of Lexias at £47/4/8 per ton.

The Total Shipments

to the United Kingdom to September 7 were 33,699 tons. Since the date of the acquisition, additional supplies have been forwarded to Great Britain, bringing the total to 36,094 tons.

Sales under normal circumstances amounted to 21,751 tons, so that the quantity taken over amounts to 14,343 tons. The average prices of the normal sales were £38/16/2 per ton for 9,251 tons of Sultanas, £30/11/8 for 11,534 tons of Currants, and £43/12/3 for 820 tons of Lexias.

From these figures it follows that approximately 60 per cent. of the 1939 shipments had been sold, the realisations of which proceeded under normal conditions, within five months of the opening of the season, **while approximately 40 per cent. is taken over by the Imperial Government at valuations which it is expected will be approximately Sultanas £39, Currants £32, and Lexias about £47/10/- per ton.**

The Net Effect

is that practically the whole of the exportable surplus of Australian dried fruits other than that sold to Canada, New Zealand and ships stores, had been placed by the end of September—approximately within six months of the commencement of shipments.

Allowing for smaller shipments to other centres, the fruit exported for the season is 54,979 tons, being virtually the whole of the supplies anticipated as the export surplus after provision had been made for approximately 15,500 tons for the domestic requirements of the Commonwealth.

In the result, as the supplies other than consignments to Great Britain had been sold and shipped on a cash basis, **this means that by reason of the British Government acquiring 14,343 tons, practically the whole of Australia's surplus for the year, of approximately 55,000 tons, had been liquidated by September 30, a position for which there is no precedent since orderly marketing was assured by the legislation of 1924.**

The Australian exporter was exceedingly fortunate in that the great bulk of the fruit destined for Great Britain had left Australia under normal shipping rates and insurance prior to the outbreak of hostilities.

Arising from this position growers and packing houses are now concentrating their attention on the preparation for the 1940 season's harvest, which under normal circumstances will commence about March 1 next year.

There is therefore no immediate problem of transportation, a fortunate circumstance having regard to the difficulties which may arise in regard to the transport of Australia's primary products. It is anticipated that the prices at which the British Government will acquire the unsold balance of slightly over 14,000 tons will be the appraised prices; in other words the minimum prices at which the fruit was valued on arrival.

This fortunate circumstance was contributed to by the Mediterranean situation and the obvious difficulties of obtaining fruit from the Turkish and Grecian markets. The London market, which was dull up to the middle of August, suddenly developed a strong tone as the crisis deepened, some 12,000 tons being taken by traders in the four weeks prior to the outbreak of war.

It is anticipated that in pursuance of the control of stocks of essential commodities, the fruit which is largely held on consignment in the British market would be distributed throughout the principal centres of Great Britain so as to avoid over concentration of supplies in docks and London warehouses.

No details are, of course, available of the steps taken by the relative Food Control, but it would appear that unless there is a resumption of shipping facilities with the Near East that the London and provincial markets will quickly absorb the stocks held in Great Britain. Australia is therefore in a strong position as regards the coming season, assuming that it is possible to provide adequate shipping space when the new crop becomes an export of significance as regards tonnage in the months of April, May and June of 1940. The Board will not make any further announcements for the time being.

QUEENSLAND

Brisbane National Show

LARGEST FRUIT DISPLAY IN AUSTRALIA.

AT the Royal National Show, held in Brisbane, August 14 to 19, there was a good display of horticultural products, particularly in the fruit pavilion. Here, in a hall 160 ft. by 60 ft., was staged the Commonwealth's largest exhibit of fruit.

Well-known interstate visitors stated that it was one of the finest displays they had ever seen. Citrus fruits were outstanding, a noticeable feature being the tremendous number of varieties shown by the various districts. It was nothing to see from twenty to thirty varieties. Another noticeable feature was the fact that there were no "plate" sections, nearly all being case and tray lots.

Among the various sections was the prize for the district exhibits—one of the chief displays. In conjunction with this there was a shield competition for Pineapples, Bananas, and citrus fruits. The outstanding display in the citrus fruits section was won by Gayndah and District Fruitgrowers' Association.

Then other outstanding displays in the pavilion were competing in the **Commonwealth District Apple Trophy.** This is open to groups of growers in each State of the Commonwealth, and is limited to one entry from each State. This was won by Messrs. Mendoza and Wright, who exhibited Messrs. W. J. and D. F. Calvert's Tasmanian fruit. The quality of the fruit was very fine, and the display well arranged.

Stanthorpe District Fruitgrowers' Association was second, and Orange Producers' Rural Co-op. Society Ltd. (N.S.W.) third.

The trophy of Apples, open to any grower or group of growers in the Commonwealth, the exhibit comprising 18 bushels of Apples (not less than two varieties) was won by Mr. I. Woolf (Pakenham, Vic.). The fruit, which was of excellent quality and beautifully packed by Miss Betty Shelton, caused a lot of favorable comment (93 out of possible 100 points). Stanthorpe District Fruitgrowers' Association second (90 points), and Messrs. D. E. and W. M. Black (Pakenham Upper) third (89½ points). Other sections included export class of Granny Smith and Interstate Pear Packing.

The class for two cases of any standard variety showed some very fine entries. The winner was A. R. Barlow (Narromine, N.S.W.), (92½ out of possible 100 points), McKillop & Sons (Narromine) second (91½ points), and E. D. Page (Curlwaa) third with 91 points.

Good displays from Victoria included Capt. J. B. Halhed (Merbein), and Mrs. M. E. Lane (Merbein).

Mr. J. L. Provan, B. Agr.Sc., Senior Horticultural Instructor, Victorian Department of Agriculture, who judged several of the fruit sections, speaks in terms of high praise of the organisation and extent of the fruit displays at Brisbane Show. The quality of the fruit displayed, said Mr. Provan, was of the best, and reflected high credit on the exhibitors.

At the Brisbane National Show, Mr. I. Woolf's winning exhibit of Apples (18 bushels of not less than two varieties). The Champion case of Apples in the Show was the front (centre) case of Jonathans.

ARGENTINE FRESH FRUIT EXPORTS.

The fresh fruit exports from Argentine during 1934, 1937, and 1938 have been 26,066,000 lb., 64,553,000 lb., and 72,916,000 lb. respectively.

Exports of Apples during January and February, 1939, show an increase of 500 per cent. over those for the same period in 1938.

A Record Pear Crop

of 132,000,000 lb. is expected this year. From 44,000,000 to 55,000,000 lb. will probably be exported.

FRUIT FLY IN W.A.

The submission of the annual report of the Fruit Fly Board by one of its members to the annual conference of delegates to the W.A. Fruitgrowers' Conference recently, led to a great deal of discussion. It was suggested that the present levy of 1/- be made 2/6, as there was a vital necessity for this work of control to be continued. It was pointed out that many markets would be closed if Fruit Fly appeared.

The motion in favor of the 2/6 levy was finally carried by a large majority.

THE MARKET GROWER

OFFICIAL ORGAN OF VEGETABLE GROWERS' SOCIETY OF VICTORIA, THE KOONDROOK & BARHAM TOMATO GROWERS ASSOCIATION AND THE SOUTH AUSTRALIAN FRUITGROWERS' AND MARKET GARDENERS' ASSOCIATION.

Market Gardening Section

FEW VEGETABLE EXHIBITS AT ROYAL SHOW — UNPROFITABLE FOR EXHIBITOR — PEA MITE VERY PREVALENT — CONTROL METHODS AND IDENTIFICATION — CULTURAL HINTS FOR POTATOES AND ASPARAGUS — A HANDY KNIFE FOR ASPARAGUS CUTTING.

(By Our Correspondent.)

ONE OFTEN WONDERS, on attending the Melbourne Royal Show, why there are so few exhibits in the Vegetable Section. However, on looking into the financial side of exhibiting vegetables, one finds that it is a losing proposition to the grower, not that we feel that the prizes to be won are not big enough, but in the case of all soft vegetables, they are always a total loss by the time that the Show is over.

Also, there is nothing to be gained in the way of selling seed by winning prizes at the Show, for seed-growing is a business of its own. While a grower may specialise in one or two sorts of vegetables and save his own seed, he does not usually have much to sell. His business is to grow the vegetables, and this does not combine very well with the saving of seed in large quantities.

It occurs to me that if the Royal Agricultural Society could arrange to purchase all exhibits staged by growers of soft perishable vegetables at a fair market price, it would be of great assistance to growers who now find themselves at considerable financial loss with no possibility of reimbursing themselves from the fact of having exhibited or won prizes at the Show.

It would also appear that if a depot could be established at the Queen Victoria Market on the day that exhibits were due to be staged, and some responsible society, or person take charge of entries and attend to staging them at the Show, it would be the means of getting a much greater entry, and a more varied assortment of vegetables, which actually grow in such abundance, but from a show point, seem to be scarce.

Pest Control.

With the quantity of **Pea mite** which is now attacking vegetable growth, and the prospect of this pest becoming much worse (wet seasons seem to suit the breeding of this pest in large numbers), it will probably be of use to growers generally to know the signs that will help them to detect this pest.

The crops which are usually attacked most strongly are **Potatoes, Lettuce, Parsnip, Beetroot and Radishes.**

When it is noticed that any of these crops in their young stages are showing signs of shrivelling up and the leaves have turned a browny color, as though all the sap had left them, it is a pretty safe sign that the Pea mite is at work. If you look carefully they will be found in the hearts of these vegetables.

When looking, handle the plant carefully, for this pest is very easily knocked off the plant and is hard to see on the ground. It then crawls around the plant, sucking the sap from the leaves and stems.

The insect itself is black and sometimes in the young stages pinkish red, about the size of a pin's head, with several red legs all around the body.

Unlike most insects, wet and cold weather do not get rid of this pest, in fact he thrives. In the warm, northwind days, later in the Spring, however, you will find this pest leaves.

The early morning or evening after 5 o'clock are the best times to find Pea mite. During the day they go into the ground and get in under the small clods of earth. For this reason, when at all possible, a light working of the ground is very helpful.

Potatoes which are just under the ground are often attacked, and a light harrowing will do much to benefit a crop of this sort. It has also been found that as Potatoes get too big to be harrowed, if some light brush wood is gently dragged by hand over the crop, one row at a time, and done quite frequently, it will give the crop a chance to establish itself and will quite often save the crop, for Pea mite does not like to be frequently disturbed.

In addition to these workings, Pea mite powder, applied with a blower, will be found to be a very effective method of control, for the powder now used is very good and will kill on contact. The fumes are sufficient on a calm day.

Cultural Notes.

Early Potatoes which are now nicely above the ground, should be scarified and hoed, and then left until the moulder is put through.

If necessary, weeds may be pulled or lightly hoed, but Potatoes of the Carmen variety do not like to be interfered with too much.

If a crop is likely to be blown about by the wind, a dry tea-tree breakwind is well worth while for if this early crop is once twisted about badly, it will not be payable.

Asparagus beds should now be moulded up so that a good length of stalk can be cut as it appears through the ground.

The best method of moulding this crop is by ploughing two furrows on either side of the plants towards the crop, then harrow or smooth, leave for about a week, and then repeat the same process with the plough. Instead of harrowing this time, however, a rake or dragger should be used to bring the mound up to a point.

It will be found necessary to hoe the weeds from this mound from time to time and a dutch-hoe should be used, immediately after the crop has been cut, and then the least injury will be done to the young shoots which may be just under the ground.

A good type of knife to cut Asparagus with is a piece of iron which is drawn out by a blacksmith to the form of half a circle at the end. The edge is cut with niches similar to saw teeth, with the exception that they are not set like a saw. With an old shovel or fork handle on top of the iron shaft, a very good knife is made. It has the advantage of running into the ground easily, and having a much larger cutting range than an ordinary knife.

MARKETING OF POTATOES.

The Australian Agricultural Council intends to recommend that legislation be passed permitting Potato-growers in States in which growers have no means of financing their organisations to prepare a marketing plan.

TOMATO CULTURE.

Bordeaux Injury and its Effects on Ripening.

THE FACTORS responsible for the apparent paradox that 4:4:50 Bordeaux mixture fails to increase yields of Tomatoes commensurate with its ability to control leaf diseases have been under investigation both in the greenhouse and in the field by measuring the growth, blossoming, and fruiting of Tomatoes sprayed with varying Bordeaux mixtures, lime alone, and copper materials without lime, write James G. Horsfall, R. C. Magie, and R. O. Surt in the New York State Agric. Experiment Station Bulletin, "Bordeaux Injury to Tomatoes and its Effect on Ripening."

The explanations commonly given for this paradox are (a) that Bordeaux delays ripening, or (b) that defoliation from disease accelerates it. Assuming that to redden a fruit is to ripen it, neither explanation seems valid. Bordeaux did not lengthen nor did artificial defoliation shorten the time from anthesis to ripening.

Bordeaux, however, did dwarf the plants, kill meristems, deform young leaves and fruits, and cause defloration. These effects were reflected in a reduced final yield and this, in turn, caused the harvest curve to be flatter for sprayed than for non-sprayed plants.

Bordeaux also hardened the leaves, accelerated transpiration, decreased growth cracks, caused fruits to russet occasionally, and increased the tendency of the pedicle to adhere to the fruit. It had little or no effect on blossom-end rot.

The leaf hardening seemed to be of two types, one presumably caused by the copper, the other by the calcium. Curtailed blossoming seemed to be related to dwarfing.

Defloration probably resulted from (a) copper toxicity, (b) accelerated transpiration, and (c) calcium hardening. Much of the damage of Bordeaux to Tomatoes, such as dwarfing, excessive transpiration, and defloration, seemed to be related either directly or indirectly to the alkalinity of the mixture. In some cases similar damage was caused by acid sprays, but not by neutral sprays.

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MELBOURNE

Victorian Fruit Marketing Association

THE MONTHLY MEETING of the Executive of the Victorian Fruit Marketing Association was held in the Board Room of the Commercial Travellers' Association, Flinders-street, Melbourne, on Friday, September 22, 1939, at 10.30 a.m.

There were present Messrs. W. P. Hutchinson (President), W. H. Carne, and A. S. Harrison (Vice-Presidents), F. Moore, J. J. Tully, H. J. Noonan, H. M. McLean, C. Douglas, K. Weeding, F. R. Mellor, R. A. W. Bailey, S. Brown, W. Young, S. P. Cornish, C. H. Jost, G. H. Sprague, F. Cave, F. M. Read (Acting Superintendent of Horticulture), W. M. Carne and E. N. Robinson (Department of Commerce), R. E. Boardman (Secretary).

Grower members of the Victorian Fruit Marketing Association in attendance at the afternoon session were: Messrs. D. C. Black and Hammond.

Publicity Funds.

Letter received from the Australian Apple and Pear Council, stating that the authority to collect funds on Australian fruit for sales publicity was not implemented in time to affect the 1939 crops. The Apple and Pear Board had recommended to the Council that the £1,500 advanced by the Council for publicity be made a direct grant without recovery. It was pointed out that the Board could have recommended the Federal Government to appropriate to the Board portion of the 1939 levies, but it had been decided to allow the funds to flow through the Council. Endorsement for the grant was requested.

Mr. Moore pointed out the need for more consideration of the proposal.

It was decided on the motion of Messrs. Weeding and Tully, to approach the State constituent Associations of the Council in the other States for the expression of their views.

Fruit Cases.

The Apple and Pear Board wrote stating that the matter of the possibility of slight shrinkage in "held over" cases had been taken up with the Department of Commerce, and it was understood this was receiving favorable consideration.

1940 Crops.

Mr. W. H. Carne wrote requesting a discussion regarding the problems of the distribution of the 1940 crops of Apples and Pears, and raised a query as to the available cool storage space.

The question had also been raised, he stated, as to the possibilities for pulping and drying Apples.

Mr. Young stated the Apple and Pear Board was thoroughly alive to the situation, and was actively at work to assist the industry.

Mr. Weeding pointed out the difficulties with regard to facilities for processing the Apples, and urged the necessity for export of fresh fruit.

It was decided on the motion of Messrs. Moore and Tully, to express appreciation for the activity of the Board in this matter and to leave the matter in the hands of their delegates.

Cool Storage Space.

Mr. W. H. Carne, in his letter, also referred to the need for adequate cool storage space. There was a discussion regarding the Cool Storage Committee which was set up after the Victoria Dock Cool Stores had been burned, and as to the extent of the cool storage space provided by private enterprise.

It was decided on the motion of Messrs. Carne and Jost—

"That this Association request the Premier to immediately take steps to rebuild the burnt portion of the Victoria Dock Cool stores by utilizing the insurance money held in trust for this purpose."

It was decided to seek the support of district Associations in this matter, and also to organise a deputation.

(Continued on Page 34)

VICTORIAN NEWS—Continued from page 10

Apple Pruning Competition

Pakenham Field Day Results.

At the Field Day held by the Gippsland Fruit Marketing Association and the Victorian Fruit Marketing Association on Mr. J. J. Ahern's orchard at Pakenham on August 11, an Apple Pruning Competition was held under the auspices of the Department of Agriculture. This competition created a lot of interest and, although it was not widely advertised, there were nine competitors.

The competition took the form of the pruning of young trees, mature trees, and the treatment of problem limbs.

The Judges were Messrs. R. T. Wadeson, Orchard Supervisor, Frankston, and F. J. Greatorex, Orchard Supervisor, Burwood, who were assisted by three growers—Messrs. T. F. Black, Upper Beaconsfield, C. Whiteside, Officer, and R. A. W. Bailey, Narre Warren.

The competition was divided into two grades—a Junior grade for competitors under sixteen years, and a Senior grade for competitors sixteen years and over. Each grade was divided into three sections.

For a First Class Certificate, candidates had to obtain an average of 80 per cent. or over, and not below 65 per cent. in any one of the three sections.

For a Second Class Certificate, an average of 65 per cent. and not below 50 per cent. in any one of the three sections was required.

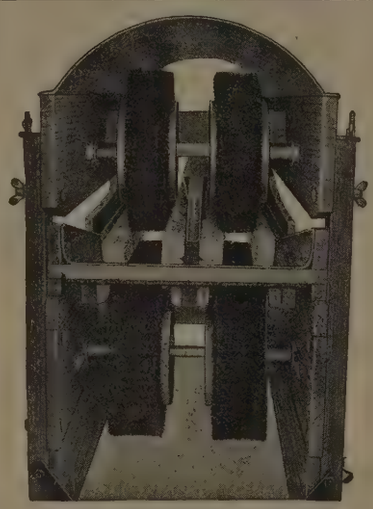
For a Third Class Certificate, 50 per cent. or over in each section had to be obtained.

The results of the competition are as follow:—

Junior Grade:

Competitor	Young Trees (100 pts.).	Mature Trees (150 pts.).	Problem Limbs, etc. (50 pts.).	Total (300 pts.).	%	Cert. Awarded.
Clive Bumpstead	59	87	38	184	61	3rd Class
W. Carne	62	99	38	199	66	2nd Class
L. Fraser	57	82	42	181	60	3rd „
J. Sampson	51	102	26	179	59	3rd „
W. Deveney	52	79	41	172	57	3rd „
S. Crosby	55	75	36	166	55	3rd „

A handsome Certificate of Competency in Apple Pruning will be awarded to each of the successful candidates.



Harvey 2-Runway Horse-Hair Belt Citrus Polisher.

"HARVEY" Fruit Graders
AND PROCESSING EQUIPMENT

New Horse-Hair Belt Type Citrus Polishing Machine—

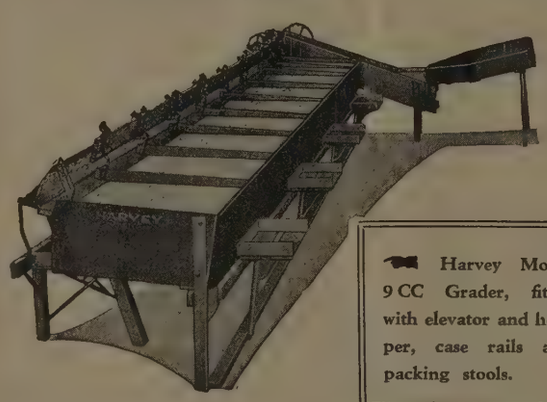
The lower set of brushes traverses in the same direction as the fruit, at a given speed, and the lower side of the top brushes traverses in the opposite direction, at half the speed, thus giving a DOUBLE BRUSHING ACTION.
The fruit is in FULL CONTACT with the brushes throughout the process.
The amount of PRESSURE CAN BE REGULATED by lowering or raising the top set of brushes.
The amount of BRUSHING CAN BE REGULATED by running the top brushes faster or slower.
It can be run in conjunction with your grader, or fed on to the packing bench.
Built in 1, 2, 3 or 4 runway size.

START RIGHT — KEEP IN MIND THE FUTURE.

The Harvey Single Sided Graders are designed to become the first unit of twin graders for color and count grading.

CITRUS PROCESSING PLANTS
SORTING TABLES
LIDDING PRESSES
WAXING PLANTS
GRAVITY CONVEYORS
BRYTENE PLANTS

Harvey 2-Runway Horse-Hair Belt Citrus Brusher fitted to 8 c.c. Grader.



Harvey Model 9 CC Grader, fitted with elevator and hopper, case rails and packing stools.

THE "HARVEY"

GRADER HAS MANY NEW AND EXCLUSIVE FEATURES, WHICH ARE CLAIMED BY USERS TO BE THE LAST WORD IN ACCURATE SIZING.

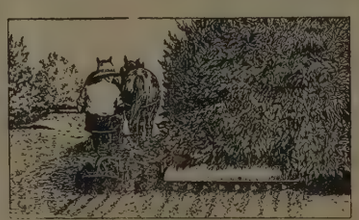
HARVEY PATENT FEATURES:

1. The setting of Grading Rollers at an oblique angle across the Grading Belt.
2. Independent Adjustable Rollers.
3. Deflectors for deflecting fruit from a full bin into the next, to avoid overcrowding where there is a predominating size in a variety.
4. Elevator delivering fruit on to lower side of belt, thus avoiding damage.
5. External friction drive of grading elements, variable speed auxiliary drive.
6. Exclusive sorting and single file elevators.

"HARVEY" IMPLEMENTS
Live Up To Their Reputation For DEPENDABILITY

"HARVEY" PATENT OFFSET TANDEM DISC CULTIVATOR: Cultivates right up to the butts of the trees or vines while the Tractor is driven right out in the middle of the row.

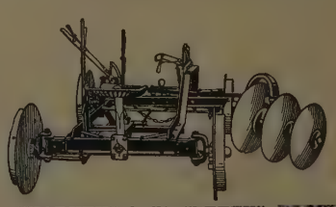
Proved to be an excellent machine for deeply cultivating heavy irrigation land.



THE BEETLEBACK cuts out all hand working under citrus trees, and keeps the ground level.
It lifts up the branches, cultivates under them, and gently replaces them on the ground.

"HARVEY" 3-FURROW TRACTOR POWER LIFT HE7 MOULDBOARD ORCHARD PLOW: A one-man job. Built in sizes from two to six furrows.

THE "HARVEY" LANCIA DISC PLOW is designed specially for the hardest kind of plowing. Low overhead clearance for low overhanging trees. Can be racked over for both plowing close up to and away from the trees. Equipped with the famous **"HARVEY"** Power Lift or Screw Lifts which are operated from the seat of the Tractor.



"HARVEY" built "PETTY" PLOW: Plows out strips which have not been plowed for years. Cuts through couch grass with the greatest of ease. Also plows up to the trees and in the centre. **DISC CULTIVATING GANG** can be attached in place of Disc Plow Gang.

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Export & Commercial News

U.S.A. AND ENGLISH FRUIT CROPS.

Heavier Than Last Year.

The U.S.A. Apple crop is deemed to be about 12 per cent. heavier than last year. Of the States which affect Australian supplies, however, the Washington crop is deemed to be 7 per cent. less than last year, while the Oregon crop is 1 per cent. higher than last year.

On the Pacific Coast the control of Codling Moth has been more effective than for several years past. The set of Winesaps and Delicious was rather light, but the fruit is sizing well.

Pears: Production for 1939 is estimated at 30,763,000 bushels, compared with the record crop of 32,473,000 bushels in 1938, and the 10 year average of 25,440,000 bushels.

Peaches: The U.S.A. production in 1939 is estimated at 61,673,000, as compared with 51,495,000 bushels last year.

There is a heavy crop of Apples in England this year.

AUSTRALIAN APPLE AND PEAR BOARD.

Joint Meeting With Apple and Pear Council Postponed Till Early November.

THE PROPOSED joint meeting between the Australian Apple and Pear Council and the Australian Apple and Pear Board, which was expected to be held at the end of September or early October, has been cancelled owing to the war, and the uncertainty of shipping. It has been decided to defer the meeting until the end of October or early November.

Items for the agenda paper include report of Empire Fruits Council Conference, correspondence re continuance or otherwise of the Council.

That it be recommended to the Australian Apple and Pear Board that an amendment of the Act be sought to provide for assistance to State organisations to the extent of one-sixteenth of a penny per box.

Consideration of the effect of the war on the Apple industry, and the question of Commonwealth assistance to keep the industry solvent.

Reconsideration of the elimination of Apple and Pear varieties;

United action in the matter of claims for faulty carriage;

Amendment of the Apple and Pear Organisation Act to provide that every commercial grower is enabled to exercise a vote—both plebiscite and election of members.

PEARS IN U.S.A.

The 1939 Pear crop for the United States is forecast at 30,024,000 bushels, as compared with the estimated production of 32,473,000 bushels in 1938.

Of the 1938 Californian crop, 70,500 tons of Bartlett Pears were canned, 35,400 tons dried, and 108,100 tons used fresh; even then 20,000 tons were wasted.

California's forecast for 1939 shows 209,000 tons of Bartletts, and 26,000 tons of "other varieties"—a total of 235,000 tons.

WAR AND THE CONSUMPTION OF FRESH FRUIT

SERIOUS PROBLEMS CONFRONT EXPORT APPLE AND PEAR GROWERS THROUGH SHORTAGE OF SHIPPING SPACE.

CONFIDENCE IS EXRESSED THAT EDUCATIONAL PUBLICITY WILL INCREASE FRUIT CONSUMPTION IN AUSTRALIA.

IMPORTANT STATEMENT FROM N.S.W.

A VALUABLE CONTRIBUTION to the present discussions relative to the fresh fruit industry consequent on the war has been made by the Market Representative of the Fruitgrowers' Federation of N.S.W.

The views as set out hereunder will be found to contain an accurate summary of the present situation. The article is as follows:—

THE FACT THAT NATURE is transcendent to mere Man and his material ambitions, means that the recurring seasons will bring to us the harvest of our fruit-trees whether a state of war permits the continuance of existing markets, or not. Past experience within the recollections of most of us, indicates the probable disturbance of the existing channels of distribution, and in fact, can indicate the limitation, and even eradication of avenues that we have accepted as essential to the profitable conduct of our fruit industry.

We cannot reduce production as can be done in secondary industry, assuming that a smaller quantity of fruit could more profitably be grown and marketed, and neither can our costs of production, prevention of disease, and expenses of marketing be reduced. It is therefore inevitable, if the fruitgrower wishes to survive financially, that, consistent with the well-being of the nation as a whole, we endeavor to retain as far as possible, all existing markets, and because of the improbability of complete success in that respect, that we organise alternate means of distribution and consumption.

No additional problems are likely to occur in relation to our Summer stone fruits, or, we hope, our late Valencia Oranges, but the pome fruit season of 1940 is too near for the prospects of satisfactory disposal to be regarded with equanimity.

The marketing of the Apple and Pear crop is not a mere State matter, but concerns the whole of the Commonwealth, both grower exporters and non-exporters being vitally concerned, while, assuming that Tasmanian shipping to the mainland will be uninterrupted, New South Wales pome fruit producers are likely to suffer severe repercussions as a result of an over-supplied market.

The States of the Commonwealth export to the United Kingdom in the vicinity of five million cases of the fruits in question in a normal year, and during the export season from February to July around 70 ships are necessary to give the spread delivery of the fruit in the United Kingdom markets. An estimate of the crop expected and the shipping space required is necessary during October, and a confirmation of the booked space is required by the shipping companies during December, but, with a necessary priority being given to defence requirements, the conveyance of essential foodstuffs and the consequent impossibility of prearranged shipping itineraries — **will shipping space be available to export our coming Apple and Pear crop?**

In a National broadcast on the night of the September 18, Mr. Cameron, leader of the Country Party, stated that Britain would probably obtain her wheat and **fruit from countries closer to her than Australia.**

It becomes apparent, therefore, that at such a time of national emergency, the growers of dried and canned fruits have an advantage over the growers of fresh fruits, owing to the concentrated food value, and the compact form in which the former products are conveyed.

Dietetics, however, have advanced considerably since the last war, and the British authorities will be aware of the unique health value, and therefore the **importance of the United Kingdom people having their Apples and Pears, provided that shipping space can be made available.**

Investigations and representations, however, on these matters, will no doubt have already been made by the Australian Apple and Pear Board, which is representing, and watching the interests of the grower, particularly in relation to export.

The growers of the State of New South Wales, however, have a particularly personal interest in assisting the formulation of emergency and alternate plans, **whereby consumption of these fruits can be increased in this State.**

An additional increase on the Sydney market of one to two million cases is not a mere probability, but a practical certainty, and the necessary or-

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SOUTHAMPTON

PEARS and APPLES

A few days saved mean the difference between profit and loss . . . . .

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Here are some of them:—

Substantial local markets with a fruit sales room actually on Southampton Docks Estate. Quicker and frequently cheaper transit to Southern and Midland Towns. The Southern Railway of England runs express freights from Southampton to all these centres, saving days and money.

London is reached by express freight trains in three hours from Southampton—All fruit unloaded in Southampton to-day will be at Covent Garden, Spitalfields, or Borough Market for early morning market to-morrow, with days saved as against fruit discharged by ships calling at Continental and other outports first. The slight additional cost is altogether outweighed by the tremendous advantages of days saved.

Deterioration is avoided by special arrangements for sorting to mark, and quick insulated trains direct to London.

Southampton cold stores available for storage of produce for local consumption or Midland deliveries. Pears can be discharged from ship to cold store in less than 5 minutes.

Before the next exporting season, consider these advantages, and ask for Southampton Discharge for London Markets.

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ganisation for its handling is no doubt being established immediately and should be supported by all.

In terms of additional consumption of so many Apples per person per day, the possible increase in the consumption of Apples and Pears assumes fabulous proportions, but it, nevertheless, is

a practical approach

to the problem and only requires developing and publicising. The utmost support and sympathy would be given to such a scheme—if they are only sufficiently apprised of the need—by the producer of dairy products, eggs and meat, by the canned and the dried fruit growers, and the producers of every article of commerce that will find a more ready market as a result of the exigencies of war. The customary course of trade is going to be vastly altered, but supported by the intention of the Commonwealth Government to prohibit profiteering, there will be a rapid circulating of money and consequent prosperity for most. There is therefore a profitable field for exploitation for increased consumption of pome fruits—provided it is approached in the right manner.

In the present national emergency, no fruitgrower will consider the promulgation of individual or sectional interests, for "the whole is greater than the part." Rather is the present an opportunity for the display of independence and self reliance in the efficient management of our industry, so that our country will be untrammelled in the furtherance of the needs of the nation.

Every producers' organisation, the Fruitgrowers' Federation of N.S.W. included, and every other section of the industry, will support the authorities in such plans as, no doubt, **are under consideration for the marketing of our product, and the prevention of disaster to those who normally rely upon export markets.**

The following figures from the Commonwealth Trade Customs and Excise Revenue Records, indicate the fluctuations, developments, and temporary markets that war conditions can introduce. Figures for Egypt are included, this country being an important temporary market.

Commonwealth Fruit Export Values to United Kingdom and Egypt, 1912 to 1921.

Year.	Fresh Fruit, Mainly Apples. (U.K. Only)	Other Fruits Preserved in Liquid.	Fruit & Vegetables Pulped. (U.K. Only)	Jams and Jellies.
1912	£313,435	£187 (U.K.) — (Egypt)	£21,979	£652 (U.K.) — (Egypt)
1913	196,106	203 (U.K.) 52 (Egypt)	2,182	118 (U.K.) 152 (Egypt)
1914-15	131,328	2,457 (U.K.) 297 (Egypt)	3,290	74,529 (U.K.) 72 (Egypt)
1915-16	372,835	1,233 (U.K.) 7,078 (Egypt)	6,200	413,905 (U.K.) 516 (Egypt)
1916-17	86,521	35,608 (U.K.) 25,079 (Egypt)	10,737 —	734,159 (U.K.) 908 (Egypt)
1917-18	10	13,761 (U.K.) 75,474 (Egypt)	2,600	406,701 (U.K.) 267,001 (Egypt)
1918-19	136,810	319,467 (U.K.) 39,265 (Egypt)	—	772,242 (U.K.) 338,905 (Egypt)
1919-20	404,563	361,353 (U.K.) 8,494 (Egypt)	—	452,074 (U.K.) 193,715 (Egypt)
1920-21	407,945	105,725 (U.K.) 1,455 (Egypt)	—	235,650 (U.K.) 2,952 (Egypt)

Pear Cases and Packing Materials

MR. A. G. STRICKLAND GIVES HIS VIEWS AFTER SEEING SOUTH AUSTRALIAN PEARS UNLOADED IN ENGLAND.

FOR IMPROVING the export trade in Pears some helpful suggestions are to hand from Mr. A. G. Strickland, M.Ag.Sc., Chief Horticultural Instructor to the South Australian Department of Agriculture.

The new proposals were conveyed to the South Australian Fruit Marketing Association by the general manager of the South Australian Government Produce Department (Mr. G. A. W. Pope), who writes thus:—

I have to advise that Mr. Strickland, Chief Horticultural Instructor, after examining the out-turn of South Australian Pears shipped during the 1939 season, made a report to Sir Charles McCann, the Agent-General and Trade Commissioner for South Australia, in which he recommended the type of case and packing material to be used for the export of Pears.

1. Specification of Boxes.

It is recommended that boxes should be in accordance with specification set out in Statutory Rules No. 60, dated June 22, 1938.

Full details will be found in the regulation and a lid not less than ¼ in. nor more than ½ in. longer than bottoms is prescribed. It is suggested that the lids should be a full ¼ in. longer at least, and a specification of ⅜ in. longer is definitely desirable when ordering 1940 requirements.

For the coming season it is recommended that tops and bottoms remain at 3/16 in. thick. Ultimately it seems desirable to make bottoms 7/32 in. to ¼ in. thick and reduce thickness of lids to 5/32 in. (using a three piece composite lid). This would have the effect of bringing all bulge on the top of the box, but to attempt this widely in 1940 would be undesirable. Furthermore, when bringing all bulge to the top of the box, "collars" are essential, and these would have to be made specially or imported from America. One Tasmanian exporter is using collars imported from U.S.A.

For your information I quote the actual measurements taken from an Argentine Pear box:—

Argentine Pear Box Measurements.

Ends: Length, 11½ in.; breadth, 8½ in.; thickness, ¾ in.

Sides: Length, 19½ in.; breadth, 8⅝ in.; thickness, 11/32 in.

Tops: Length, 20½ in.; breadth, 3 pieces, each 3⅝ in.; thickness, 5/32 in.

Bottoms: Length, 19½ in.; breadth, 4 pieces each 2¾ in.; thickness, 7/32 in.

Cleats: Length, 11½ in.; breadth, 1 in.; thickness, ¾ in.

2. Packing Material.

(a) **On Bottoms and Sides:** A soft broadribbed cardboard. The quality of the blue cardboard used by the Blue Moon Packing Company, Victoria, is excellent, and the blue color is attractive.

(b) **On Top:** A wood-wool pad weighing approximately 3 ozs. With a long lid the use of a pad of this weight should not provide any reason for worry in connection with nett weight of fruit.

In respect of varieties it would be desirable to use wood-wool pads as top packing material in all cases as, depending on the skill of the packer, the type of lidding machine, and other factors, more or less bruising of top Pears occurs in practically all varieties. There are also considerations of uniformity and general impression on buyers.

Bruising has been noticeable in Williams, Doyenne du Comice and Howell, and to a lesser extent Packhams. There is no doubt that top pads should be used for the above varieties, and if costs permit it is strongly recommended that their use should be extended to embrace all varieties.

Experiment With Wood Wool Pads, Both Top and Bottom for Williams Variety.

It is suggested that if any shipments of Williams go forward in 1940 at least portion of the consignment should be packed with wood wool pads (3 oz. each) **both** top and bottom. In the past bruising has undoubtedly been contributed to by use of "short" lids; in 1939 longer lids were used but the season was abnormal and conclusions as to the effect of the lids are difficult. It may be that in a normal season, with long lids, top wood wool pads (weighing about 3 ozs.) will be sufficient to preclude excessive bruising, but evidence on this point must be obtained next year.

3. Heavier Timber for Sides and Ends.

Sides and bottoms of boxes in 1939 appeared quite stout enough. Compliance with specifications set out in regulations is sufficient.

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Enquiries Are Invited by Advertisers on This Page for Fruit for Export or Sale on The Adelaide Market.

PEARS FOR EXPORT.

Amended List of Approved Varieties.

A DECISION OF IMPORTANCE to exporters of Pears is contained in amendments to the Exports (Fresh Fruit) Regulations notified in the Commonwealth Gazette.

Under the amended provisions, the following twelve varieties only are listed for shipment to the United Kingdom:—Beurre Bosc, Beurre Hardy, Easter Beurre, Glou Morceau, Madame Cole, Winter Cole, Beurre D'Anjou, Doyenne Du Comice, Giblin's Seedling, Josephine, Packham's Triumph, Winter Nelis.

This decision marks a further step in the campaign for a reduction in the number of varieties exported. In 1937, some 24 varieties were approved for export, and the export of any other varieties (except in special circumstances such as experimental shipments) was prohibited. At its annual meeting in 1938, the Australian Apple and Pear Council agreed that certain of these varieties should be removed from the list for the United Kingdom market after the 1939 season.

The list of varieties which may be exported to destinations other than the United Kingdom are: — Beurre Brettoneau, Beurre Bosc, Beurre D'Anjou, Beurre Hardy, Black Achan, Broom Park, D. Bossuch, Doyenne Du Comice, Duchesse d'Angouleme, Easter Beurre, Giblin's Seedling, Glou Morceau, Howell, Josephine, Keiffer, Lemon Bergamot (or Passans du Portugal), Madame Cole, Marie Louise, Middleton, Packham's Triumph, Vicar of Winkfield (or Napoleon), William's Bon Chretien, Winnelis.

BUSH RAKINGS FOR SOILS.

Departmental experts in N.S.W. advise that now is an excellent time to apply bulky organic matter, such as bush rakings, which will rot down and add to the humus content of the soil.

Where bulky organic matter, such as bush rakings, which contain only comparatively little nitrogen, is applied, it is an advantage to give a dressing of sulphate of ammonia and carbonate of lime, allowing about ½ cwt. of the former and ¾ cwt. of the latter per ton of rakings. When estimating the weight of bush rakings, the weight of the leaf only should be calculated, not of any soil or stones that may have been collected.

N.Z. FRUIT EXPORT.

Export of Apples from New Zealand last year were the second highest on record, being exceeded only by the 1932 crop, states the 13th Annual Report of the New Zealand Fruit Export Control Board. The 1939 crop was much lighter than that of 1938.

The report goes on to say that owing to present conditions in New Zealand, it is probable that this may be the last report on marketing to be issued by the Board.

Owing to the drought there was an unusually large number of small sizes in the fruit, and the fulfilling of all overseas obligations was very difficult. The demand for shipping space was also acute, and because the shipping programme did not at all times synchronise with receipts of fruit, the available cool store space had to be used to the utmost.

SYDNEY CHAMBER'S NEW LEADER.

Man of Experience and Integrity.

In choosing Mr. Walter Musgrove as its President in succession to the foundation chairman, Mr. John Jenkins, the N.S.W. Chamber of Fruit and Vegetable Industries has elected a man well able to lead the industry through the troublous times ahead of us.

Mr. Musgrove is a fruit agent whose reputation for integrity is known throughout the Commonwealth. Born on the Hawkesbury, his parents were numbered amongst the earliest settlers in that rich and historic district. From early youth he was schooled in matters pertaining to the fruit industry, and consequently was well qualified to take his place among the merchants, whom he joined about fifty years ago.

As member of the fruit section of the Chamber of Commerce, of which he has twice been chairman, he takes an active part in its affairs, and his experience has proved invaluable to that body. He is one of the agents selected by the Tasmania Fruit Advisory Board. He has been a J.P. for over 25 years. Established in 1900, in the old Belmore market, the firm of Musgrove & Son quickly gained the confidence of growers. They were among the first to occupy premises

MR. W. MUSGROVE.

in the City Markets when they were built, and they have been located in Store No. 8 there ever since. The position is a convenient one, and this, combined with the energy of Mr. Walter Musgrove, Mr. J. W. Musgrove, Jnr., and staff, has resulted in an ever-increasing clientèle.

APPLE AND PEAR PUBLICITY.

The charming display of Apples and Pears at the Melbourne Royal Show put up jointly by the Apple and Pear Council and Orchardists and Cool Stores' Association, attracted many thousands of visitors. The stand was staffed continuously, day and night, and health pamphlets were distributed to the public.

SYDNEY MERCHANTS' DINNER.

Function to be Held as Usual.

The annual dinner of the Chamber of Fruit and Vegetable Industries of N.S.W. will be held as usual this year.

The function will take place at the C.T.A. Rooms on Saturday, October 14. It is expected that about 120 merchants and visitors will attend.

VICTORIA.

Harcourt: The Victorian Government has decided to grant £1,700 for the replacement of coils at the Harcourt Cool Stores, so as to bring the establishment to full efficiency.

The Chairman of the Victorian State Rivers and Water Supply Commission has stated that he will visit Harcourt to discuss with water users in that district the position of payment of rates on water which had not been made use of.

Representations were made recently by Harcourt users, who stated that assurances were given during the dry spell that no charge would be made on water users in the period in which no water was available.

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Westralian Tomato Growers' Association.
Southern Queensland Tomato Growers' Association.
North Coast Tomato Growers' Association.

References:
Bank of New South Wales, Haymarket, Sydney.

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EXPORT OF 2¼ INCH ROKEWOOD APPLES.

Recommendation by a Victorian Grower.

Reasons for permission to export 2⅛ inch Rokewood Apples are given in the following letter by Mr. D. C. Black, a well-known grower at Pakenham Upper, Victoria.

Mr. Black writes as follows:—

"I arranged for the shipment of these small Yates and Rokewoods this year, in order to be in a position to produce evidence in support of the request for export shipment of 2⅛ inch Rokewoods.

"For several years I have known there is a very definite market for these sizes, especially in London, as prior to restrictions being placed on varieties and sizes, I could always obtain a price almost equal to the larger sizes of 2¾ and 2½ inches, and frequently better than 2⅝ inch size.

The parcel of 2⅛ inch Rokewoods to Liverpool sold at 9/- per case, which was an excellent price considering the ruling prices of the fruit on that boat. Also, Liverpool is recognised as a port preferring fruit of 2½ inch size, while London at 10/6 for 2⅛ inch Rokewoods leaves nothing to be desired, being an average of 6d. to 9d. per case lower than the 2¼ and 2½ inch sizes.

"I pack each year fairly large quantities of Apples, and a conservative estimate of the fruit of this size thrown out over a period of three years would be from 3,000 to 4,000 cases.. The fruit industry to-day cannot afford to throw away any fruit of Fancy Grade, which has been produced at a cost of 2/- to 2/3 per case.

"It may be contended this fruit would affect the quantity available for export, and in a heavy year create a larger surplus. It necessarily must do this, but not with any disadvantage to the industry. As Rokewoods are shipped at the end of the season, they can only affect Yates, and if the larger sizes of them were withdrawn and retained here for interstate trade, an even more remunerative return to the grower would be assured, without any fear of that market being over-supplied.

"Might I here make a few observations which I have had to accept from experience over a long period of exporting.

1. That the small Apple (in the dessert class) is very popular on the London market.

2. That the general pack of Australian fruit would not only be of higher quality, better condition, and more favorably received by the trade if all fruit over 2½ inch size (180 count) were eliminated, for the following reasons:—(a) It is impossible to pack 42 lb. of 2⅝ inch fruit into a case without injury to at least 15 to 20 per cent. of the fruit; (b) this large fruit not being popular, and opening up in a damaged condition, not only detracts from the general pack, but adversely affects the sale of smaller sizes.

"Lastly, fruit 2⅝ and 2¾ inches is more valuable for local and interstate markets, being at all times the sizes most in demand.

"Surely it is not too much to ask that steps be taken to ensure the arrival of only the more popular sizes on our overseas, local, and interstate markets, and thereby eliminate a shocking waste of fruit which should be going into consumption.

Experiments in the gas storage of fruit will be continued at the Shepparton Fruit Preserving Co. So far these experiments have proved very successful, but will not be put into commercial operation for the forthcoming season.

Cable Address: DAVIS, MELBOURNE. Code: "ABC," 4th and 5th Editions. Box, G.P.O. 148B.

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Market Notes and Prices

FRUIT PRICES IN THE SYDNEY MARKET.

Survey of the Period August 25 to September 25, 1939.

SPRING WEATHER, with the usual cool westerly winds interspersed with warm days, has been experienced during recent weeks. The weather has been fine, in fact, much too fine on the coastal belt of the State, and soaking rains are necessary at an early date for both vegetable and fruit crops.

The period has been one in which considerable slackness and disorganisation of business might have been experienced as a result of the declaration of war, but upon reflection one is surprised at the even level of values that has been maintained. Assistance to this condition of affairs was undoubtedly given by the lean crops, particularly of citrus, that have characterised the whole of the year, and at no time has there been any problem of over-supply or of wastage comparable with the average season. **Bananas, Pineapples** and **Tomatoes** increased in quantity, but the probable demand for **canned fruits** prevented the excessive increase in the supply of **Pineapples** that was expected before the declaration of war.

Pome Fruits.

The arrival of **Tasmanian Apples** each week has been an important feature of the market, and ready demand has been experienced. Values have continued high, and the **Democrat** has experienced wonderful request, due to its reliability. The Tasmanian shipment now comprises chiefly **Democrat** and **Sturmer Pippin**, 109,360 cases arriving during the past four weeks. This quantity includes a few Pears.

New South Wales Apples have comprised chiefly Granny Smith, values of which have not improved, and, in fact, large sizes are reported to be a little easier, in this type of Apple, and it is probable that releases will be heavier in the near future. Pears have at all times sold freely, but sound fruit suitable for holding out of cool store has been scarce. Orange district **Packham's Triumph** have been conspicuous, some sales of count 198 realising 17/-, while larger sized fruit has sold to 20/- per bushel.

Citrus.

The sudden rush of **Navel Oranges** that occurred late in August terminated as quickly as it had commenced, and, in fact, heralded the end of the navel season. Supplies since then have been very light, and excellent demand has been experienced.

Coastal and metropolitan **Valencias** have gradually increased in supply, most arrivals being of fruit around counts 163-234. The scarcity of **Oranges** is evidenced by the fact that counts 150 and 163 have mostly sold at 9/- and 10/- per bushel, while as quantities have increased count 234 has become too small for the 6d. per dozen size. The dryness of the season and the risk of Black Spot which usually appears during October, are causing growers to steadily market their fruit, particularly from areas where fruit is not likely to increase in size. Supplies from the M.I.A. are very light, and comprise only fruit that is unsuited for the New Zealand market. Other types of Oranges, such as **Joppa, Mediterranean Sweet**, etc., are practically finished.

An even level of prices has been maintained for **Lemons**, most sales being at from 8/- to 10/-. A new Spring crop appeared during recent weeks, but most of this has been extremely thick in the skin and deficient in juice. It is probable, however, that successive crops of Lemons will be coming forward from different localities, and there is a promise of continuity of supply, right up till Christmas and probably afterwards. War conditions are causing steady enquiry from processors regarding the prospects of future crops of Lemons and it is probable that good values will continue in the future.

The crop of **Mandarins** is practically finished, and within the last few days the supply of **Grapefruit** has decreased. Grapefruit has experienced less demand during the last two weeks, and it is probable that most of the crop has been marketed.

Export of citrus has continued, the total despatched for the season, irrespective of size of case, being as follows: — 74,163 Oranges, 8,079 Lemons 2,190 Grapefruit, and 73 Mandarins. Of this quantity, New Zealand received the following:— Oranges 62,606, Lemons 7,200, Grapefruit 1,206 cases.

Tomatoes.

Queensland has forwarded almost 70,000 half cases during the past four weeks, the Bowen crop nearing the end of its season. Southern Queensland fruit has been of very special quality on most occasions, the prices obtained being the equivalent of New South Wales glasshouse fruit. New South Wales glasshouse, with a few hothouse, are now in the middle of their season, and supplies have also been coming from Western Australia. It appears probable that New South Wales North Coast Tomatoes will be arriving early in October, although heavy frosts damaged the first planting and a scarcity of new plants was then experienced. The warm Spring weather experienced on the sheltered slopes of the coast, however, will probably have assisted the early maturity of the plants, and those growers with means for irrigating should be marketing at an early date.

Prices.

Apples—Extra Fancy, Fancy, and Good: Cleo. (Tas.), 6/- to 10/-, few 11/- per bushel; Crofton (Tas.), 7/- to 11/-, few 13/-; Del. (Tas. 6/6 to 11/-, extra fancy to 13/-), (N.S.W.), 7/- to 18/-, few higher per bushel; Demo. (Tas. 6/- to 9/-), (N.S.W.), 6/6 to 9/-, few 10/-; Grannies (W.A. 11/- to 14/-), (Tas.), 7/- to 12/-, few 14/-, (N.S.W.), 7/- to 14/-; Jon. (Tas.), 6/6 to 10/-; Romes (Tas.), 6/6 to 10/-; Sturmer (Tas.), 4/- to 7/-, few 8/-; Yates (W.A.), 10/- to 12/-; French Crab (Tas.), 3/6 to 7/-, green to 10/-.

Pears: Josephine (Vic. and N.S.W.), 6/- to 12/-, few to 16/- per bushel; Packham's (N.S.W.), 8/- to 17/-, few 20/-; Winter Cole (Tas. and N.S.W.), 7/- to 12/-, few 15/-; Winter Nelis (N.S.W. and Tas.), 5/- to 14/-; "D" Grade lower.

Bananas (N.S.W. and Q'land.)— Regulation graded, first quality fruit: Six inch, seven inch, eight and nine inch, 8/- to 18/-, few higher per tropical case.

Citrus Fruit.

Grapefruit—Standard and Special Grades (Plain Grades lower): (N.S.W.), local 4/- to 8/-, special Wheeney to 10/- per bushel; inland, 4/- to 8/-, special brands 9/- to 10/-, few 12/-.

Lemons: (N.S.W.), local, 7/- to 9/-, few 10/- per bushel, plain grade 5/- to 6/-, inferior from 3/-; inland, 6/- to 10/-.

Mardarins: (N.S.W.), Emperor, 4/- to 8/-, few to 14/- per bushel.

Oranges — Standard and Average Special Grades: Navels (N.S.W.), 8/- to 12/-, special 13/- to 15/- per bushel. **Valencias** (N.S.W.), local, count 80 to 100, 7/- to 9/- per bushel; count 113 to 163, 8/- to 9/-, few 10/-; counts 175 to 216, 6/- to 7/-, few 8/-; smaller, 4/- to 6/-; Inland, 7/- to 9/-; plain grade, 2 bush. crates, 10/- to 12/-. **Other Oranges**, 8/- to 10/- per bushel.

Loquats: (N.S.W.), 3/- to 5/-, Mammoth 5/- to 8/- per half bushel.

Passionfruit: (N.S.W.), inferior, 1/6 to 4/-; medium quality, 6/- to 9/-; special, 10/- to 14/- per half bushel.

Papaws: (Q'land), 7/- to 10/-, few higher per tropical case.

Pineapples: (Q'land.), 7/- to 10/- per tropical case.

Strawberries: (N.S.W.), 6/- to 12/- per dozen punnets.

Tomatoes: N.S.W., hothouse 12/- to 17/- per half case, glasshouse 10/- to 14/- per half case; Q'land., Bowen 3/6 to 10/- per half case, Southern Q'land., 8/- to 12/-, few 14/-; Western Aust., 6/- to 9/- per half case; repacked, 10/- to 14/- per half case.

NEW REGISTRATION.

Shearer, John B., & Son, Municipal Markets, Sydney. Fruit merchants. Com. 7/1/39. Proprs.: Ronald F. and John B. Shearer. Regd. 3/8/39.

VICTORIA.

Melbourne (2/10/39). — Wholesale Fruit Merchants' Association prices— Per Case: Apples, eating, 7/-, 12/-, choice higher; cooking, 6/-, 9/-, choice higher. Bananas, double case, 9/-, 16/-, few higher. Cucumbers, 18/-. Grapefruit, 5/-, 11/-, selected higher. Lemons, 6/-, 13/-, selected higher. Oranges, 6/-, 14/-, selected higher. Passionfruit, 6/-, 13/-, choice higher; poor quality local, in cases, 6/-, 14/-. Papaws, 8/-, 12/-, selected higher. Pears, 5/-, 10/-, few higher. Pineapples, 9/-, 12/-, choice higher. Tomatoes, W.A., half case, green, 6/-, 9/-; do., S.A., best ripe, 13/-, 14/-. Celery, best, 6/-, 10/-.

QUEENSLAND.

Brisbane (25/9/39). — Messrs. W. Arkell & Sons advise as follows:— **Apples:** Jonathans, 9/- to 14/-; Croftons, 9/- to 13/-; Yates, 11/- to 13/-; Dem., 6/- to 10/-; S.T.P., 6/- to 9/-; G.S., 12/- to 14/-; F.C. Green, 8/- to 10/-.

Tasmanian Pears are mostly arriving very ripe, many lines faulty. The Apple market here is bare, and choice fruit should sell freely.

SOUTH AUSTRALIA.

Adelaide (supplied by S.A. Fruitgrowers' and Market Gardeners' Association): Following is a list of quotations on the Adelaide Markets on September 29, 1939:—

Vegetables: Beetroot, 1/- doz. bches.; Carrots, 1/6 doz. bches.; Par-

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BRISBANE FRUIT MARKETS

Highest Prices. **A. S. BARR** Prompt Returns.

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W. Arkell & Sons Estab. 1892

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Shipping No. 12

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MURRAY BROS

CONSIGNING NO. 22 BRISBANE

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SELECTED AGENTS FOR: Phones: Office B 6218. Residence J 3445. Established 1911.

Victoria: Harcourt Fruitgrowers' Progress Assn. Ltd. Harcourt Fruit Supply Co. Ltd. Victorian Central Citrus Assn. Ltd.

Tasmania: State Fruit Advisory Board.

New South Wales: Griffith Producers' Co-op. Co. Ltd. Batlow Packing House Co-op. Soc. Ltd.

snips, 2/- doz. Bches.; Rhubarb, 1/6 doz. bches.; Rhubarb (Cherry), 2/- doz. bches.; Turnips, 1/- doz. bches.; Turnips (Swedes), 1/6 doz. bches.; Cabbages, 2/- to 4/- dozen; Cauliflowers, 6/- to 8/- doz.; Celery, 3/- to 3/6 doz. heads; Peas, 4/- to 5/- bushel; Onions (Brown), 30/- to 32/- cwt.; Onions (White), 1/6 to 2/- doz. bches.; Potatoes, 22/- to 24/- cwt.; Tomatoes, 12/- to 11/- ½ case.

Fruit (per case): **Apples:** Granny Smith, 9/-; Del., 10/-; Jon., 10/-; Buncombe, 8/-; Romes, 8/-; Statesman, 8/-; Bananas, 20/- to 22/-; Lemons, 8/-.

Oranges: Commons, 7/-; Navels, 10/-; Pineapples, 14/- to 17/-.

V.F.M.A. REPORT—(Continued from Page 27).

The following were appointed the deputation: Messrs. Cornish, Tully, McLean, Carne, and Sprague. Mr. J. G. B. MacDonald, M.L.A., to be asked to introduce the deputation, and other members of Parliament to be invited to attend,

2½in. Rokewood Apples.

Mr. D. C. Black wrote enclosing copy of letter which he had sent to the Department of Commerce, setting out reasons why 2½in. Rokewoods should be permitted to be exported.

Mr. W. M. Carne, Department of Commerce, pointed out the quantity of Rokewoods produced in other States, and stated this was a matter which the Apple and Pear Board would decide.—Noted.

Bitter Pit.

Mr. H. A. Mullett, Director of Agriculture, stated in reply to our letter that investigations were being conducted into the bitter pit problem.

Reports by Messrs. F. M. Read and W. M. Carne are published elsewhere in this issue.

Mr. R. A. W. Bailey urged the need for experiments to prevent bitter pit in the growing of the fruit.

Annual Meeting.

It was decided to hold the annual meeting on October 27, 1939—the executive meeting to be held in the morning and the annual meeting in the afternoon.

Constitution of the V.F.M.A.

The Chairman reported that the Committee to consider the Constitution had had several meetings and a re-drafted constitution had been prepared and submitted to executive members. The basis of the proposed revised Association was individual membership in local Associations, local Associations to form district Councils in areas conveniently grouped, the district Councils to send delegates to the Central Council, the Central Council to appoint an Executive.

After discussion and consideration of further amendments, it was decided that a special meeting be called to consider the whole matter—in the meantime, executive members to study the proposed draft.

The date of the special meeting to be left in the hands of the Chairman. Further, that a letter be sent to the Victorian Exporters' Handling Committee to ascertain their view on the proposals.

Other matters dealt with were Pruning Certificates, Enquiry into Primary Industries, Pear Packing, Trade with Colombo, Pay of Militiamen, Storemen and Packers' Union, and Vermont Field Day.

MOTOR NOTES

PREVENT CORRODED BATTERY TERMINALS.

Attention Necessary.

To prevent corroded battery terminals which can cause the complete failure of the electrical system, there are three requirements to be met in connecting up a battery. **Terminals must be tight, clear, and protected from the acid which always manages sooner or later to seep on to them.**

When removed from the battery, they should be cleaned by soaking them for a few minutes in an alkaline solution, such as strong household ammonia, washing soda solution, or even a solution of soap in water. Then rinse them with plain water.

When cleaned, they must be greased to protect them from further corrosion, and the correct grease to use is petroleum jelly or vaseline. This is best applied by heating the terminal and plunging it into the grease, which melts into all the recesses. Finally, **when tightening the locking clamp, take care that this has not become so distorted that tightening of the nut fails to pull it tightly in to the terminal post of the battery.**

As well as the terminal, the terminal post of the battery may collect corrosion which will cause a high resistance to develop. Wash the post with alkali and water, and follow this by careful scraping to dislodge any hard corrosion which may be left.

CARE OF PLUGS.

Four Major Reasons.

There are four conditions which have imposed greater demands upon the plugs in the car of to-day than ever before, namely, **increased horsepower, higher compression, higher engine speed, and faster road speeds.** Notwithstanding the tremendous developments in engine design, however, sparking plug engineering has steadily kept ahead of the procession. Spark plug trouble to-day can be almost entirely eliminated by following a few simple rules:—

1. Replace sparking plugs when they have been used for 10,000 miles or more.
2. Replace plugs with the type designed to meet the operating conditions of individual engines.

Actually there are only five causes of spark plug trouble:—

1. Normal wearing out.
2. An abnormal gap—either too wide or too narrow.
3. A broken or cracked insulator.
4. Pre-ignition.
5. Fouling.

Car owners are therefore advised to have engine plugs checked periodically and to have them properly cleaned when necessary. The matter of cleaning has become quite important and special treatment is necessary by means of modern equipment, in order to effect a thorough cleaning job.

EXCESSIVE ENGINE WEAR.

Three Factors for Prevention.

SAFETY from excessive engine wear depends on three main factors—high quality engine oil for thorough penetration of moving parts, regular oil changes, and attention to the cleanliness of the air filter provided, according to a report by the Vacuum Oil Company.

Road dust and other extraneous matter sucked into the cylinders with the intake air can cause excessive engine wear, reflected in a high oil consumption.

Much scientific study has been made of piston ring alloys, section shapes and surface finishes of the rings themselves. Clearances between pistons and cylinders, rings and cylinders and rings and grooves have been made smaller in order to assure longer useful life.

These smaller clearances demand the use of lighter engine oils to ensure a thinner oil film for penetration between these closely-fitted surfaces. Recognising this, the motorist must appreciate that the engine oil must be kept clean and free from abrasive particles. To-day it is more important than ever before that oil should be changed regularly, and that air filter systems be kept clean.

The motorist who changes his oil every thousand miles, who flushes his crankcase at least before changing to Winter oil or Summer oil, and who gives his air filter regular attention, will be assured of considerably less wear on cylinders, pistons and rings than the motorist who neglects these vital services.

TRACTORS ON THE ORCHARD.

Cletrac Meets Requirements.

IN the past, the products of the Cletrac Tractor Company have been available in a range extending from about 30 drawbar horsepower up to more than 100. Although this covers most of the tractor market, it does not provide a model for such people as orchardists and other users of light tractors for agricultural purposes. The Cletrac Company have now rectified this position, and their agents here, Queen's Bridge Motors Pty. Ltd., released on the Victorian market during July two entirely new tractors, to be known respectively as the "General" and the "Model H."

The "General" model has many unique features, has strength and is simple in construction and operation. In addition to use for cultivation purposes it is possible for the owner to operate such equipment as shearing machinery, sawmills and water pumps with this tractor.

The power unit is a four cylinder, with 3 in. bore by 4 in. stroke. It is governed to a maximum speed of 1,400 r.p.m., and develops 18 b.h.p. at that speed.

As far as performance is concerned, the "General" will pull a single furrow plough cutting a furrow 16 in. wide at 3½ miles an hour. It will harrow or pull a rotary hoe at 6 miles an hour. It is exceedingly economical on both fuel and oil, and can be used to pull a combine harvester or, in fact, any farm machinery that would be found on a property where the "General" tractor would be a suitable unit.

The "Model H" is like all other previous Cletracs, inasmuch as it has a tank type track instead of the wheels used on the "General," but it is built up as far as motor, frame, and transmission are concerned on similar principles to the "General" model. The tracks, however, make it only 91 in. overall, instead of the 120 in. of its sister tractor. The steering principle, of course, is altered, as instead of the front wheel it is by the tracks itself that the tractor is steered. The steering bands have a width of nearly 2 in., and a total area of nearly 70 in.

The tracks are 6 in. wide and that part of them which touches the ground has a total length of 50 in. There are 30 shoes on each track, and the ground pressure is under 5 lb. per square inch of track, or less than the pressure of a human foot. The total ground area always in contact with the soil is 612 sq. in., while the weight of the complete tractor is 2,900 lb. Its working capacity is such that it will pull a two-furrow plough without difficulty, and its fuel economy, general simplicity and freedom from trouble-producing gadgets is fully the equal of the "General" model.

A cordial invitation is extended to orchardists when in the city to call and inspect these Cletrac models at the showrooms of Queen's Bridge Motors Pty. Ltd., Queen's Bridge-road, South Melbourne.

SPECIAL NOTICE TO FRUITGROWERS

All Members under Fidelity Bond

In response to numerous requests from growers for information as to who are members of the

Wholesale Fruit Merchants' Association of Victoria

the following list is given. All are members of the above Association, and are registered firms carrying on business in the

WHOLESALE FRUIT MARKET, MELBOURNE.

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Correspondence is invited by the Association.

Office : 21 Wholesale Fruit Market, Queen Street, Melbourne. Phone: F 4866.

Poultry Notes

TOO MUCH SALT IS HARMFUL TO FOWLS.

IT has been noted that most cases of salt poisoning in poultry are from eating grains of raw salt, notably out of dry mash, states the N.S.W. Dept. of Agriculture.

There is considerable danger in dry mash hoppers where salt is mixed in the mash, particularly where the hoppers are filled up to last two or three weeks.

Dry mash hoppers should be emptied and filled each week. Where that is not done there is danger, especially in damp weather, of the grains of salt clinging together and forming a mass of over-salty material, which, when eaten by the birds, results in salt poisoning.

The same danger lurks in brine in which meat has been pickled, whether it is mixed with the food, or even thrown on the ground where poultry have access to it. Scraps from the kitchen containing salt are still another source of the same trouble, as is the addition of salt to mixed mashes which may already contain quite sufficient.

Quantity of salt used in the morning wet mash should not exceed 22-oz. to 100 lb. of food, calculated on dry weight, and the salt should first be completely dissolved in the liquid with which the mash is to be mixed.

As regards salt in dry mash, it will be best to use only about half the quantity stated for wet mash, and to ensure that it is very fine, dry, free from lumps, and thoroughly mixed through the mash. Only by such precautions can immunity from salt poisoning be ensured.

MEAT MEAL AIDS PRODUCTION.

Tests Conducted at Werribee.

The value of incorporating meat meal in food supplied to pullets has been proved by tests conducted by Officers of the Department of Agriculture at the State Research Farm at Werribee.

Generally egg production was higher and consumption of mash lower among pullets which received the higher percentage of meat meal. The conclusion drawn from this was that the higher protein content of the mash made it more satisfying, and the pullets were able to maintain both health and production with less food.

Inclusion of meat meal in the food did not appear to affect the health and general appearance of the birds, and the eggs were no different from those laid by birds fed with ordinary mash.

The departmental tests were conducted on a large scale, comprising 250 Australorps and 250 White Leghorns, and extended over 12 months.

In the Australorp section the best result was obtained from birds fed on dry mash with a 7½ per cent. meat meal, while in the White Leghorn section the best yield was obtained from birds fed on dry mash with 15 per cent. meat meal.

Tests are now being made by the Department to determine the effectiveness of meatmeal added to wet mash.

EGG BOARD INVALID.

Important Legal Decision.

But Government Will Pass Validating Legislation.

Producers' Poll Cancelled.

A DECISION of great importance to primary producers was made during September, when Mr. Justice Lowe, in the First Civil Court, Melbourne, declared the Egg and Egg Pulp Marketing Board to be invalidly constituted. His Honor also found that egg pulp was not a product within the meaning of the Marketing of Primary Produce Act 1935.

The Board was declared invalid because it dealt in egg pulp, and egg pulp is classified as a manufactured product.

The Victorian Government has decided to introduce legislation so that the actions of the Board will be valid and to enable the Board to carry on as before.

Arrangements were in hand for a poll of producers to be taken as to continuance or abolition of the Egg Board, but this has been cancelled.

Do You Keep Poultry?

if so——

You should secure a copy of the——

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WATER ESSENTIAL FOR POULTRY.

Shortage Checks Growth.

Nothing will check the growth of young stock or cause a reduction in the egg output of the laying flock so quickly as water shortage.

The effect on production is both rapid and drastic, so much so that some poultry-keepers, wishing to cause birds to moult, deliberately restrict the water supply.

This is not recommended, but it clearly indicates the very important part drinking water plays in egg production; and it plays an equally important role during the growing stage, since young birds cannot make progress if they are short of water.

Birds will drink a large quantity of water during warm weather, more particularly if they cannot obtain succulent green food, and cool water is appreciated in Summer just as much as they appreciate water with the chill off in the Winter.

It is essential to provide an abundance of water to all classes of stock. The hotter the weather the more they will require. Empty drinking vessels will mean poor growth of young stock, poor production and possibly early moult.

Lack of drinking water will also cause small eggs.

BIRDS FOR BREEDING.

Physique the Primary Requirement.

TOO MANY poultry farmers, and particularly newcomers into the industry, are prone to pay too much attention to individual high producers for the breeding pen, very often with disappointing results, points out the Poultry Expert of the N.S.W. Department of Agriculture. Unless they possess the other essential qualities, physique being the first requirement, the progeny of high producers will not be as satisfactory as the birds which are selected on outward appearances.

It is even more necessary to make a rigid selection of the progeny of high producers than of birds from untested stock, because there are frequently more weaklings among them. Yet birds are often used in the breeding pen simply because they have a pedigree for production, regardless of the physique and character of the individual birds being used.

To make matters worse, in-breeding is carried on with the object of perpetuating certain high-producing strains, with the result that degeneracy takes place, and a farmer following these practices is much worse off than one who paid no attention at all to breeding from high producers.

TUBERCULOSIS IN PIGS.

Safeguards Against Loss.

THERE is no practical method of treatment of tuberculosis in animals, but by attention to the following precautions the disease may be kept under control, states the N.S.W. Dept. of Agriculture Bulletin.

1. As cattle are the main source of infection, the tuberculin test should be applied to the herd and all reactors removed.

2. Do not allow pigs to roam about pastures and yards used by cattle unless it is definitely known that there is no tuberculosis in the herd.

3. All skim-milk and other dairy products from untested cattle should be heated to 180 degrees Fahr, and kept at that temperature for fifteen minutes before being fed to pigs.

4. All refuse, slaughter-house offal, and similar food should be boiled before it is given to pigs.

5. In view of the possibility of pigs gaining infection from poultry affected with tuberculosis, pigs should not have access to runs used for poultry.

6. Where tuberculosis is found to be present in the herd, all suspected animals should be slaughtered, and where this is done under qualified supervision the carcasses which have only a slight infection of the head glands will be passed for human consumption, the affected parts only being condemned. The pens should be thoroughly disinfected and lime-washed, disinfectant being added to the lime. All litter and rubbish in the yards should be burned and the ground loosened and treated with quicklime.

7. In the case of stud pigs, if tuberculosis is suspected of affecting any of the animals, arrangements should be made to test the whole of the pigs. The reactors could then be removed.

Fresh air and sunlight are great enemies of the tubercle bacillus. Hence pens and sties should be open and airy, and have no damp dark corners to which the air and sun cannot penetrate.

TROUGHS FOR PIGS.

A four-gallon drum can be made into a good trough for pigs. Cut the drum along one side, and across both ends, and then bend the two halves outward.

HOUSEHOLD HINTS.

Add a teaspoon of condensed milk to icing, and it will neither crack nor fall off the cake.

To prevent earthenware dishes from cracking when heated, rub the outsides thoroughly with a raw Onion before using for the first time.

Before paring Apples pour scalding water over them and allow them to stand for a minute. They can then be pared quite thinly; in fact, the peel can often be rubbed off.

To brighten the fire quickly for making toast, mix together a large handful of salt and a cupful of water. Sprinkle the fire with this a few minutes before you are ready to make the toast.

Add a few drops of salad oil to the soapy water in which washleather is being washed, and all dirt will be quickly removed.

Peeled and sliced Onions left lying in a little milk for fifteen minutes will fry a delicious golden brown.

If electric light shades are made of parchment or imitation parchment, they can be cleaned with gum rubber. Alternatively, rub all over with cotton wool dipped in fine oatmeal.

A sponge can be easily and quickly cleaned by soaking it in a pint of water to which the juice of a lemon has been added.

A Useful Ointment.

Take a sixpenny tin of zinc ointment, 1 tablespoonful of friar's balsam, and 2 tablespoonfuls of castor oil; mix well together. This ointment is good for cuts and bruises, and will keep the hands in excellent condition.

Paint Cleaning.

The best way to clean white paint is to take a soft flannel cloth, dip it in warm water, wring out, and then dip in a saucer of clean bran. The friction of the bran will remove any stain without injuring the paint. Soda should never be used on enamel paint, as it destroys the gloss.

A Polish for Mahogany.

One of the best ways of cleaning very highly polished mahogany is to wipe it over with a soft leather wrung out of a weak solution of vinegar and water and then polish with a soft silk duster.

Prevention of Frost Damage in Orchards

ONLY TESTED THERMOMETERS SHOULD BE USED.

INTERESTING CHART OF DANGER POINT TEMPERATURES.

EXPERIENCES IN NEW ZEALAND AND U.S.A.

FROST PREVENTION by heating with oil-burning firepots is becoming a general orchard practice in Central Otago, N.Z., states Mr. W. R. Lloyd Williams, Orchard Instructor, Alexandra, in "N.Z. Journal of Agriculture."

Only tested thermometers should be used, being placed 4 ft. 6 in. from the ground. Protection is needed above the thermometers to prevent radiation, else the true temperature will not be seen. All shelters should be placed so that the thermometer is facing south.

Every care must be taken when reading the temperatures not to breathe on the liquid. Unless the thermometers are placed at the correct height and under similar conditions, comparisons cannot be made.

Mr. Williams continues:—As mentioned in the report on my visit to America, we have found the chart of damaging temperatures in the U.S. Department of Agriculture Bulletin sufficiently reliable for the Central Otago district. This Bulletin was published in 1929, but I was assured that the experience of the intervening years had proved it to be reliable. The following is the chart:—

Fruit.	Stage of Development. Buds closed but showing Color. °F.	Full Bloom. °F.	Small Green Fruits. °F.
Apples	25	28	29
Peaches	25	27	30
Cherries	28	28	30
Pears	25	28	30
Plums	25	28	30
Apricots	25	28	31
Prunes, Italian	23	27	30
Almonds	26	27	30
Grapes	30	31	31
Walnuts, English	30	30	30

These are the temperatures that will be **endured for thirty minutes or less, provided the temperature has not been below 32 deg. F. for more than two hours.** As an example the Bulletin states:—

"Apples and Pears at this stage of development (fruit-set) usually are not seriously injured by a temperature of 28.5 deg. F. for thirty minutes or less, provided the duration of temperature below 32 deg. F. does not exceed two hours. If the temperature drops to 29 deg. F. at sunrise, and has not been below 32 deg. F. more than two hours, heating is unnecessary. However, if it appears that the lowest temperature during the night will be below 29 deg. F., or if the temperature falls below 32 deg. F. more than two hours before sunrise, heaters should be lighted and the temperature maintained as near 31 deg. F. as possible throughout the remainder of the night."

Our experience in Central Otago has proved this to be very sound practical advice.

Time for Lighting.

From just before the flowering-stage we consider it necessary to light up for Apricots when the thermometer registers 28 deg. F. to 29 deg. F. The latter temperature is safer should the temperature have been at freezing point or below for any appreciable time. As the flower advances, so must the temperature be raised, until at the greatest liability to damage (when the dried calyces have fallen and the young fruit is bare) lighting should be started at 31 deg. F. to 32 deg. F., the latter again being the safer if the temperature has remained low for any length of time, or if it reaches 32 deg. F. early in the night with the prospects of a long night's frost. It is easier to hold the temperature than it is to raise it.

It is customary to light alternate pots for a start, gradually increasing the number of fires if the temperature is not being held, and, as a final resort only—should all fires be burning and the temperature still receding—take off the spiders. This will give an increased burning rate (and consequently increased heat) of at least 60 per cent. to 70 per cent. The removal of the spiders would probably be required only for the last half-hour or so before it is time to extinguish the fires, and it has been found necessary only on very rare occasions with an exceptionally severe frost.

Some take sunrise as the signal to extinguish the fires, but this is a very poor guide, and it is seldom safe then. The thermometer outside the heated area is the only safe guide, and should be followed no matter how high the sun is up. When the sun rises the rays are very "flat" or horizontal, and strike the tree only on one side of the limbs. Again, the coldest time is usually between dawn and sunrise, and the sun therefore takes some time to warm up the air above the danger point. Moreover, it is often found that the smoke from the fires will accumulate in clouds towards the east and prevent the full effect of the sun's heat reaching the trees. Much damage has been done in this district after a successful night's firing by extinguishing them too soon.

Danger Period.

In the chart the first column shows the damaging temperature for Cherries at 28 deg. F., whereas for other fruits it is mostly given as 25 deg. F. in the "buds closed but showing color" stage. This is definitely characteristic of Cherries, for at this stage they appear to be at least as susceptible to frost damage as when in blossom. This is American and Central Otago experience. One night last Spring when there was a minimum temperature at 26 deg. F. there was considerable damage to some varieties, notably, St. Margaret, Florence, Bedford Prolific, and Napoleon, while in the bud stage. This damage has also been noticed in previous years.

It is difficult to state when the danger period for the season is over, as it depends so much upon circumstances. However, it is quite definite that with stone-fruits the most dangerous period is from just after the "shucks" have fallen and the young green fruits are fully exposed until the stone has hardened and there is a considerable thickness of flesh to protect it.

Too much emphasis cannot be laid on the fact that temperatures registered on reliable thermometers are the only safe guide; appearances are unreliable. If the chart is closely followed there may at times be more burning of fuel than is necessary. At other times, however, it will be less, but the crowning result will be an assured crop.

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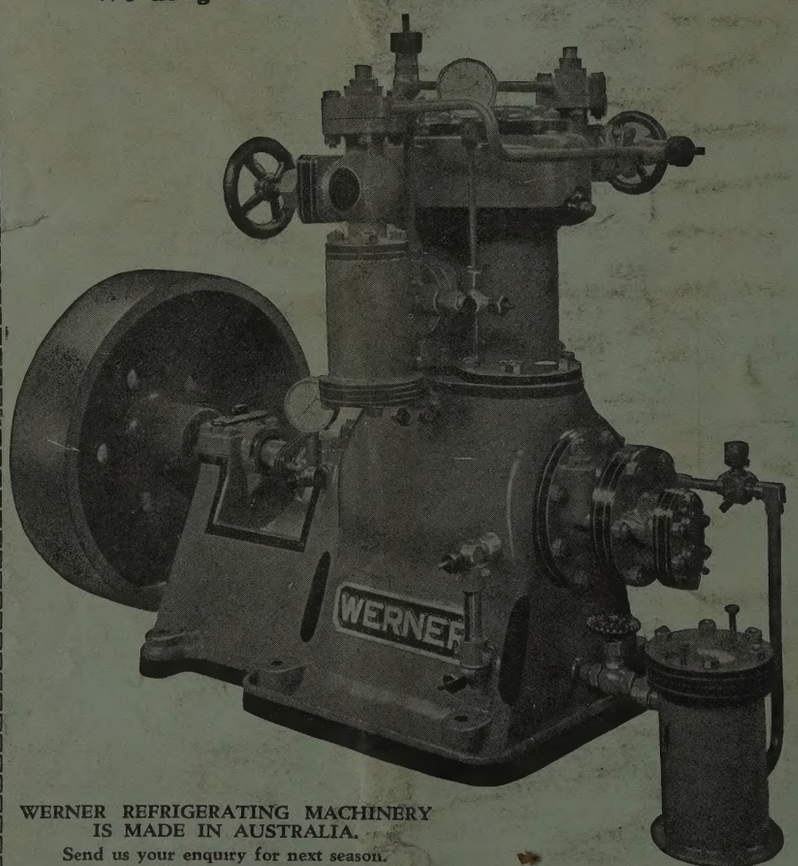

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